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## INTERSTATE MIGRATION OF TUBERCULOUS PERSONS.

ITS BEARING ON THE PUBLIC HEALTH, WITH SPECIAL REFERENCE TO THE STATES OF TEXAS AND NEW MEXICO.

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For many years certain western areas have had well-deserved reputations as health resorts. Colorado was seemingly the first to obtain recognition, but as the country was opened up for settlement, western Texas, New Mexico, and Arizona in turn became the Mecca for health seekers; later California had her name added to the list, becoming a keen rival of the other States in offering attractions to the afflicted. During the early period of the migration of the tuberculous we had practically no knowledge concerning the transmissibility of the disease, and patients so afflicted were not regarded as dangerous to the public health or welfare, while even if they had been they doubtless would have been received in this newly settled country with some degree of cordiality. To-day all this has changed. The public now rightfully considers tuberculosis a communicable disease and every case is regarded as at least a potential source of contamination. The western country to which the afflicted migrate is no longer a struggling section, but has become sturdy and resourceful as well as independent. Manufacturing industries have arisen, congested districts developed, and living conditions differ in but slight respect from those of the East. It is not strange then that any great influx of consumptives should be looked upon with some degree of suspicion, even if actual doubt of the desirability of such a movement be not expressed, and the subject is well worthy of careful investigation. The problem is a many sided one, and any consideration of its social, economic, or public health aspects should be made on more than narrow grounds, for not alone is the welfare of thousands concerned, but life itself in many instances is involved. It was with these facts in mind that the investigation, of which this is a report, was undertaken November 11, 1913.

### Climatic Conditions.

The climate of the four States mentioned is in general much the same and a single description will, with slight variations, be sufficient for all.

The entire area is a part of the great western plateau. Beginning at the eastern slope with an altitude of but a few hundred feet, the land gradually rises to 6,000 feet or more, with mountains extending as high again. San Antonio, with an altitude of but 700 feet, is far down the slope; El Paso, at 3,700 feet, is nestled in the valley of the Rio Grande, while Albuquerque occupies a position a mile above sea level. Between these extremes almost any desired altitude may be selected.

The temperature of this vast area varies widely, and not only latitude, but altitude as well, exerts its influence. The summers in Colorado are in general cool, while those in New Mexico and Texas are, in the lower levels, hot, but even here great diversity exists, and by selecting places of sufficient altitude almost any desired temperature may be obtained. In San Antonio there are on an average 94 days a year when the thermometer registers above 90, in El Paso 80, and Santa Fe but 2. On account of the extremely low humidity these high temperatures are less depressing than one would expect, and for the same reason the cold of the winter season is much more bearable. The winters in the southern area are mild and conducive to outdoor life, but in the northern and mountainous regions zero temperatures are often recorded and storms are frequent.

There is an abundance of sunshine and probably but few places in the world can show such a preponderance of cloudless days as these slopes of the Rockies. While the average number of cloudy days at San Antonio, based on the figures for 20 years, is but 99, at El Paso the number decreases to 36, New Mexico giving approximately the same number. The flood of sunshine prevails almost uninterruptedly throughout the year.

The mean relative humidity is extremely low. San Antonio partly partakes of the humidity of the Gulf section, and it shows over all months an average rate of 81 for the 8 a. m. observation and 54 for the evening record, giving 67.5 as the daily mean. The moisture content at El Paso is much lower, 54 during the morning and but 26 for the 8 p. m. observation, the mean average being but 40. Certain sections of western Texas and New Mexico would probably exhibit figures much lower than these.

There are but few rainy days, precipitation occurring as showers of short duration, but even these are rare. The average rainfall at San Antonio is 26 inches, at El Paso 9 inches, at Albuquerque but 8. Over the plains of western Texas the annual precipitation varies from 15 to 20 inches, the mountainous regions, on account of the snowfall, being slightly in excess of this. Seventy-five per cent of the precipitation occurs during the summer months.

The winds are occasionally objectionable. Boisterous winds, often accompanied by clouds of dust, are apt to prevail during

February and March, but then this is true of almost all climates at this season. Outside of this period the air is at all times clear, although as the cities increase in size some tendency toward the smoke nuisance is observed.

In general, then, the climate of this region—and by climate we refer not alone to prevailing meteorological conditions, the aggregate of which go to make up the state of the weather, but to altitude as well—is one of great uniformity, excelled perhaps by no other sections of the country, except possibly Florida and southern California. It is an arid region with a remarkably low relative humidity, the very maximum amount of sunshine, and the invigorating influences afforded by a moderate altitude. Outdoor life is possible the greater portion of the year with the least amount of discomfort, and the debilitating effects of the summer's heat can be easily avoided by short journeys to less oppressive centers.

#### Sources of Information.

It is to be regretted that in neither of the States covered does any accurate system of registration of deaths prevail. The last biennial report of the Texas State board of health recorded the deaths of 56,421 persons for the period September 1, 1910, to August 31, 1912. Based upon the annual death rate of the registration area of the United States for the year 1912 (13.9 per thousand) there should have been recorded 108,322 deaths during that period. In other words, approximately one-half of the people dying in this vast State, comprising a territory as large as the German Empire, are buried without any record being made of their deaths. Wonderful strides are being made by the State bureau of vital statistics, but in the thinly settled western section, the very portion to which the tuberculous migrate, the difficulties seem almost insurmountable. The standard certificate of death is used, but in only two cities, San Antonio and El Paso, was it possible to obtain any data regarding the length of residence, a most important desideratum. Information concerning birthplace, cause of death, etc., could not be secured in hundreds of cases where the certificates were filed, owing to their incompleteness.

In New Mexico conditions are worse. There is no central bureau where death returns are made and the various county records are all that are available. These are most imperfect, there seemingly being no official whose duty it is to have the returns promptly and properly made. In all of New Mexico there is but one city or district where the death rate can be accurately computed. Within the last year a terrible mining accident occurred, in which over 200 men lost their lives, but the county records absolutely fail to give any indication of such a catastrophe. The writer met a physician, one who had

been a busy practitioner for many years, and yet had never made out a birth or death certificate!

Physicians are of course largely responsible for this unfortunate condition of affairs. Not until they have a proper appreciation of the value of birth and death certificates can we hope to have an effective system of registration in any State. Undertakers are not altogether blameless, but if the interment of bodies were made dependent upon the issuance of burial permits, and these in turn upon the receipt of a certificate of death, there would be far less trouble.

It should of course be realized that there are great difficulties attending the proper recording of deaths in this western region. A large percentage of the population is of Mexican origin. The country is very sparsely settled and none of the towns are large. Hundreds die unattended by physician or priest, and bodies are often interred within short walking distance of the home by the relatives themselves.

Morbidity returns, especially with reference to the infectious diseases, should afford us far more reliable data from which to draw conclusions. It would seem that the importance of mortality statistics in health administration has after all been greatly overestimated when compared with the far greater value of morbidity data. Knowledge of the incidence of tuberculosis, typhoid fever, poliomyelitis, and other diseases is a prerequisite in public health work, for not only are the data themselves of greater value, but the general view of the situation is rendered more exact, and valuable time is saved, inasmuch as the returns are made with the development of the disease. With tuberculosis, typhoid fever, and many other infections, this is an extremely important consideration. In the first instance years may elapse from the time of development to the date of death, while in the second the two or three weeks' delay affords ample opportunity for the occurrence of an explosive outbreak.

In Texas notification of cases of tuberculosis was made obligatory by the State law of 1911, and various city ordinances also provide for the registration of cases, the board of health in at least two cities offering inducements in the way of free fumigation of houses for the reporting of this disease. In spite of this the disease is not generally notified. In Houston and Galveston less than 5 per cent of the actual number of cases is recorded. At San Antonio during 1913 there was 1 case registered to every 6 deaths occurring; at Fort Worth 1 to every 11 deaths; at El Paso 1 to every 85 deaths, while some of the cities showed none at all. As an example of successful registration we may cite New York City, where in the year just ended there were 8,601 deaths, with 22,671 new cases recorded and 31,212 carried over from the previous year, making for every death occurring 6.2 cases notified. In Cleveland registration is so perfect that over 90 per cent of all cases are recorded previous to



death. The city of El Paso during the year 1913 harbored over 4,000 consumptives, but the health authorities were informed of the presence of exactly 4 of this number. At San Antonio the figures would be almost as startling had it not been for the presence of a practitioner who conducted a sanatorium and who was quite diligent in reporting his cases. There is no town in New Mexico which requires notification except Albuquerque, where the disease among school children is reportable.

With morbidity reports utterly lacking and mortality figures of value only in the larger cities, it is apparent that whatever deductions regarding the migration of the tuberculous are made must, as far as these two States are concerned, be largely from direct personal observation. Hospital records have been gone over with care wherever available, although here, too, there was found a great lack of careful registration of admissions and diagnoses. The books of various eleemosynary and other institutions have been consulted with the idea of determining exactly how much of a burden the indigent consumptive has been, and careful observation of railroad trains for a period of weeks was followed in order to gain an adequate conception regarding the number of afflicted traveling and the conditions under which such travel is performed. Naturally the most valuable aid was received from physicians, but every aspect of the problem was discussed with those most familiar with its features.

Some discrepancies may occasionally be noticed in the figures given. These are accounted for by the fact that the sources of information varied, the original documents not always being accessible. In one city certificates were duplicated in a register, two on each page, and as there were in the 10-year period some 13,000 deaths, it is apparent how slight errors could creep in. All forms of tuberculosis are included in these figures, and as the purpose of this study was broader than the mere determination of death rates, certificates mentioning the disease were tabulated. Deaths from tuberculous pneumonia and pulmonary hemorrhage were also recorded as tuberculosis deaths, provided the individual was unmistakably a health seeker.

#### **Causes Leading to Migration.**

The causes leading to the migration of the tuberculous can be readily summarized. The great belief in the efficacy of climate, which in some instances is even considered by the laity to be specific for the disease, is the leading factor. This in part has been the result of the recommending of climatic change by physicians. The advertising of towns, cities and railroads has done much to encourage the migratory movement, and while this advertising has been abandoned to a large extent, as far as it relates to the tuberculous, its evil

effects continue. A considerable portion of those who migrate are actually sent by physicians, lodges, societies, and church organizations, although in the opinion of the writer this number is greatly overestimated. The large contingent which wanders from community to community, or is transferred thereto by various charity organizations or people is considered later in this report.

#### Extent of Such Travel.

In approaching the question of the extent of travel, it must be stated at the outset that there is no way of exactly estimating the number of invalids seeking climatic relief. A census is impossible, and we are forced to rely largely upon the death rates of communities, the estimated tuberculous population of given districts, actual inspection of trains over long periods of time, and such hospital and other records as are available. None of these methods is satisfactory, and consequently it is difficult to advance definite figures, and an adequate conception of the extent of such travel can be gained only by a perusal of tables given under other headings.

In spite of this, some safe conclusions may be arrived at by studying the mortality rates of the principal resort cities, as the figures and percentages relating to the dead would also apply to the living, provided the number considered were sufficiently large. In Table 1 is presented the tuberculosis death rates of the chief resort cities of the United States for the 10-year period ending in 1912.

TABLE 1.—*Death rate from tuberculosis (all forms) per 100,000 in the principal resort cities.*

	Mean.	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903
Albuquerque, N. Mex.	1,404.6	1,265.7	1,206.4	1,133.1	1,231.8	1,546.8	1,562.1	1,600.9	1,609.5	1,485.1	.....
El Paso, Tex.	788.7	595.8	651.2	816.8	745.6	868.1	780.6	887.1	858.9	894.2	.....
Asheville, N. C.	672.9	632.5	658.5	727.8	.....	.....	.....	.....	.....	.....	.....
Colorado Springs, Colo.	607.6	574.5	589.9	571.8	535.4	626.0	647.7	707.9	.....	.....	.....
San Antonio, Tex.	449.2	415.8	409.2	434.7	399.4	401.0	482.4	462.6	537.0	544.8	405.4
Denver, Colo.	372.5	299.7	292.7	330.5	378.9	395.9	386.3	409.2	411.6	427.0	393.4
San Diego, Cal.	324.1	357.5	307.7	307.2	245.9	359.5	356.3	311.1	314.3	347.8	334.3
Los Angeles, Cal.	299.8	255.7	277.5	259.7	253.0	261.2	324.8	333.8	343.1	302.2	387.2

Several facts must be borne in mind in studying this table. In the first place there is a great unwillingness on the part of some health authorities in the Southwest to register tuberculosis deaths as such, and frequently they are recorded as being due to other causes. This same reluctance extends to families, who often enter strenuous objections to a death being registered as due to tuberculosis, and practitioners, whenever possible, are prone to give heed to the wishes of the family; hence the figures presented may be considered as representing the minimum number of deaths.

Next, it should be recalled that the majority of these resorts exhibit among their resident population a death rate from the disease far below that of eastern cities, it being doubtful if a single one could

even equal that of the registration area, 149.5, some showing almost none; therefore all of these high rates are principally due to the influx of invalids. As we shall see later 91 per cent at Albuquerque, 63 per cent at El Paso, and 52 per cent at San Antonio of these deaths were among interstate migrants, and probably the percentages at the other resorts vary to the same degree.

The population of the various cities should also be considered. Los Angeles has a relatively low rate, but it becomes evident that with its large population it really harbors more consumptives than Albuquerque with its high rate but small number of inhabitants. The size of the community must necessarily be considered, then, in estimating the tuberculous migrants. Of the cities given, it is seen that Albuquerque with its mean rate of 1,404.6 is the highest, almost double that of its nearest competitor, El Paso, and over nine times the death rate from tuberculosis of the registration area, while San Antonio ranks fifth.

The mortality rates for the smaller towns of western Texas and New Mexico are not available, except as they have been gathered by the writer, and in no case are they deemed accurate enough to present. Eliminating the Mexican population, it is believed that the majority of the villages will show as great a percentage of interstate migrants as the cities mentioned, and it is extremely probable that the ratio of sick to well exceeds that of any similar district, with the possible exception of Arizona.

In attempting to ascertain the number of invalids actually traveling, trains were inspected throughout the two States for a period of several months. Inquiries were made of trainmen and railroad officials, but naturally this method, while giving one a fair idea of the scope of the problem, failed to bring forth figures which could be used in measuring its extent. It was, however, of considerable assistance in estimating the number of bed cases and those far advanced in the disease, but was of little value otherwise, as the majority of patients remained undetected. As an example, on a train coming East from Denver there were six people occupying a Pullman, all of whom were apparently well, but the intimacy which results from a somewhat tiresome trip disclosed the fact that three were tuberculous.

It would be expected that the transcontinental trains passing through the resorts would show the largest number of invalids, but the local traffic is really heavier in the number infected, although the former transport the greater percentage of far advanced cases. The vast majority of cars passing through western Texas and New Mexico carry consumptives at some stage of their journey. The greatest number, about 50 per cent, are in day coaches, 30 per cent occupy tourist sleepers, and 20 per cent are in standard Pullmans,

the occasional critical patient in baggage cars not being considered. Consumptives, like all other people more or less hopelessly ill are, as a rule, dissatisfied and poorly contented, hence many of them even after their arrival in a favorable climate wander from place to place in search of better conditions. This, together with the fact that much of the population of the Southwest is made up of the invalid class, accounts for the local traffic being heavier.

There is a decided seasonal prevalence in the migratory wave, the crest of the western movement being in October and November, that of the eastern in May, the hot summer months showing the least travel.

In measuring further the extent of such travel we will derive some information from the birthplace as recorded upon death certificates. While this method is not altogether reliable it serves as the only means of tracing a small part of those who migrate. It must be remembered that there is an enormous interstate migration of the well, all of the States west of the Mississippi, with the exception of Louisiana, Utah, Iowa, and Missouri, gaining by this migration, while the great majority of those east of the Mississippi are losing. Approximately one quarter of all residents of Texas, taking the State at large, were born in other States, but the newly settled western section shows a much higher percentage. It is therefore seen that the birthplace is not a clear indication of the place of origin of the invalid, the resort sections not being credited with that portion who were well when they migrated, but subsequently developed the disease. However, as we shall see later, this number is extremely small, the error being negligible in New Mexico and in favor of the resort, while in Texas the discrepancy is greater owing to the large number who have come from the eastern, southern, and northern sections of the State where indigenous tuberculosis is common.

In Table 2 are presented the tuberculosis deaths of the city of Albuquerque for the 10-year period ending in 1912, with the place of origin of each individual.

TABLE 2.—*Albuquerque, N. Mex.*—Number of deaths for 10-year period, showing birthplace of each.

Year.	Tuberculosis deaths.	New Mexico.	Other States.	Mexico.	Foreign.	Unknown.
1904.....	122	11	82	1	7	21
1905.....	140	10	92	1	15	22
1906.....	147	13	96	0	12	26
1907.....	151	5	116	0	12	18
1908.....	157	12	114	2	12	17
1909.....	131	11	91	2	13	14
1910.....	126	16	83	1	11	15
1911.....	140	9	101	2	15	13
1912.....	153	11	109	5	15	13
1913.....	152	13	116	2	14	7
	1,419	111	1,000	10	126	166
Per cent.....		7.8	70.4	1.1	8.9	11.7

As will be seen from a study of this table, but 7.8 per cent of all tuberculosis deaths in Albuquerque were of people born in New Mexico. There were 70.4 per cent born in other States, 1.1 per cent of Mexican birth, 8.9 per cent additional of foreign birth, and 11.7 per cent where the origin was unknown. The greater part of the foreign born, other than the Mexicans, should of course be credited to other States, inasmuch as they migrated in the same manner as the residents of those States, there being so few who come to the resorts directly from foreign countries, with the possible exception of Canada, as to be inconsequential. The three classes, those born in other States, those of foreign birth, and the greater share of those whose origin was unknown, are unquestionably interstate migrants, and they comprise 91 per cent of the total number. There is no reason to doubt that this percentage would hold true among the living of that particular section, nine out of every ten consumptives originating outside the State.

In Table 3 similar data relating to the city of El Paso are presented, but, as will be noticed, the percentages are somewhat different.

TABLE 3.—*El Paso, Tex.*—Number of deaths for 10-year period, showing birthplace of each.

Year.	Tuberculosis deaths.	Texas.	Other States.	Mexico.	Foreign.	Unknown.
1904.....	222	21	132	35	22	12
1905.....	232	18	124	42	19	29
1906.....	259	25	139	54	22	19
1907.....	259	35	132	55	23	14
1908.....	307	30	143	94	26	14
1909.....	280	29	155	62	21	13
1910.....	325	45	140	102	18	20
1911.....	284	33	134	71	24	22
1912.....	282	44	125	74	23	16
1913.....	341	59	149	93	14	26
	2,791	339	1,373	682	212	185
Per cent.....		12.1	49.2	24.4	7.6	6.6

Those born in Texas comprise 12.1 per cent of the whole, the eastern and southern sections of the State furnishing the largest proportion. The Mexican born make up 24.4 per cent. Those which should be credited to other States are the 49.2 per cent born there, the 7.6 per cent of foreign birth, and the greater part of the 6.6 per cent of unknown origin, making a total of 63.4 per cent who are interstate migrants, a decided falling off from the Albuquerque figures, due principally to the large numbers of those of Mexican birth.

The figures for San Antonio are if anything more interesting, and they strongly refute the statements made that nine out of every ten consumptives are from other States, at least as far as that particular locality is concerned.



TABLE 4.—*San Antonio, Tex.—Number of deaths for 10-year period, showing birthplace of each.*

Year.	Tuberculosis deaths.	Texas.	Other States.	Mexico.	Foreign.	Unknown
1904.....	397	114	178	47	38	20
1905.....	421	109	177	57	19	19
1906.....	357	104	150	42	37	24
1907.....	428	122	193	48	45	20
1908.....	383	125	156	49	36	17
1909.....	376	145	133	45	39	14
1910.....	442	162	158	65	49	8
1911.....	444	157	141	91	31	24
1912.....	479	177	164	79	42	17
1913.....	453	176	146	81	35	15
	4,180	1,391	1,596	604	411	178
Per cent.....		33.3	38.2	14.4	9.8	4.2

An extremely large percentage (33.3 per cent) are Texan in origin, and 14.4 per cent of Mexican birth. Crediting the interstate migrant class with those born in other States (38.2 per cent), those of foreign birth (9.8 per cent), and those of unknown origin (4.2 per cent), we have but 52.2 per cent of the consumptives dying in this city who came from other States. In other words, those originating in Texas and Mexico almost equal those who are health seekers from other States.

At San Angelo, a third resort in Texas, the percentage of native Texans is even higher (42.5). There were 40.6 per cent born in other States, which together with those whose origin was unknown (10.5 per cent), and those of foreign birth (1.8 per cent), gives a total of 52.9 per cent who were interstate migrants.

Summarizing, then, the statistics of the four resorts, we have at Albuquerque 91 per cent of all consumptives originating in other States—for these figures likewise apply to the living—63.4 per cent at El Paso, 52.2 per cent at San Antonio, and 52.9 per cent at San Angelo, these percentages including all those of unknown origin. It would therefore seem that the tuberculosis problem, as far as the three latter cities are concerned, is an interstate problem only to the extent indicated by the above percentages.

Referring to Table 1, we find that Albuquerque has a mean death rate from tuberculosis of 1,404.6 per 100,000, El Paso 788.7, and San Antonio 449.2. Using the percentages which we have just found as a basis, we can assume that 91 per cent of 1,404.6 deaths per 100,000 represents the interstate migrants at Albuquerque, 63.4 per cent of 788.7 at El Paso, and 52.2 per cent of 449.2 at San Antonio. Computing these we learn that the death rate among tuberculous invalids from other States is 1,278.1 at Albuquerque, 500 at El Paso, and 234.4 at San Antonio. In proportion to the population, those in the first city outnumber those in the last over five to one. If these percentages apply to the living, and there is no

reason to doubt that they do, the seriousness of the problem is much the greatest in the first-named city.

One other method of ascertaining the origin of the migratory class is available. The destination to other States of bodies dead of tuberculosis is deemed even clearer proof than that of birthplace. For this reason a table has been prepared from data gathered in various parts of western Texas showing to which States bodies were consigned, and while the total number, 1,775, were not altogether those who returned to their homes in this unsatisfactory manner, the majority were. So far as this particular section is concerned the list is believed to be representative. Native residents of the State are omitted.

TABLE 5a.—*Destination of bodies dead of tuberculosis shipped to States outside of Texas.*

State.	Num- ber.	State.	Num- ber.	State.	Num- ber.
Illinois.....	225	Wisconsin.....	52	West Virginia.....	10
Missouri.....	217	Georgia.....	49	New Mexico.....	10
Ohio.....	131	Michigan.....	43	District of Columbia.....	9
Kentucky.....	93	Minnesota.....	35	Maine.....	8
Tennessee.....	92	Oklahoma.....	31	Maryland.....	7
New York.....	87	Virginia.....	28	Washington.....	4
Mississippi.....	81	North Carolina.....	15	South Dakota.....	4
Arkansas.....	78	California.....	13	Rhode Island.....	4
Louisiana.....	74	Florida.....	12	Arizona.....	2
Indiana.....	69	Massachusetts.....	14	Vermont.....	2
Alabama.....	59	Connecticut.....	11	Montana.....	1
Pennsylvania.....	59	Nebraska.....	13	North Dakota.....	1
Iowa.....	57	New Jersey.....	13		
Kansas.....	52	South Carolina.....	10	Total.....	1,775

From the above it is seen that Illinois, Missouri, and Ohio account for 32 per cent of the total number, and with Kentucky, Tennessee, and New York nearly 48 per cent; that is, approximately one-half of those who migrate into western Texas come from these six States. This does not indicate that tuberculosis is more prevalent in those States, but the circumstance can largely be explained on the ground of accessibility. Missouri and Massachusetts are nearly equal in population, and the one should furnish as many tuberculous migrants as the other, but 15 times the number go into western Texas from the first State than from the second. Just as in the early days of the settlement of the country the migratory waves followed certain definite lines, so with the ill, who apparently have particular regions where relief is sought.

#### The Number of Interstate Migrants.

To arrive at the actual number of consumptives resident in any particular section, and thus be able to draw conclusions regarding those who have migrated, is a difficult task, but fortunately we again have the death rate as a guide, the ratio of deaths to the number of existing cases having been pretty definitely determined. In New

York City during 1913 there were 6.2 cases registered to every death occurring. The ratio of deaths to cases as given by most authorities is 1:7, but even in nonresort cities this is much too low, unless persons with a low racial immunity go to make up the population, some authorities placing it as high as 1:10. Should we consider this the prevailing ratio at any open resort, however, we would, for several reasons, be making a serious error. First, the number actually remaining at the resorts when their condition is hopeless is relatively small, they preferring to be with their relatives at home. Second, the various sanatoria almost invariably return to their places of residence the far advanced cases, being desirous of avoiding the depressing influences of deaths in their midst, and this also has become the general custom among physicians. Third, it has been found by relief societies that it is much cheaper, as well as more satisfactory to the afflicted, to make a similar disposition of the hopelessly ill, as they invariably require care and nursing in the later stages of the disease. All this serves to decrease the death rate and incidentally to increase the number of far-advanced cases transported. For these reasons, then, the ratio of 1:10 does not hold good, and some other standard must be fixed.

The index decided upon by the writer is 1:15, a purely arbitrary figure. This ratio was accepted, however, only after careful consideration, the interviewing of many physicians, the examination of death records in every town visited, and averaging the estimated tuberculous population as advanced by well-informed persons. For our use, then, we shall consider the number of consumptives resident in a given resort city in any particular year as 15 times the number of deaths for the disease during that period.

At Albuquerque for the year 1913 there were 152 deaths from tuberculosis, 138—or 91 per cent—of which were of the interstate migratory class. Multiplying this by our factor, 15, we have 2,074 as the tuberculous population of the city who have at some time come from other States. At El Paso the deaths were 341, the percentage was 63.4 and the ratio 15, 3,243 being the migratory consumptives. At San Antonio the deaths were 453, the percentage much lower, only 52.2, and the factor 15, giving 3,547.

Below is presented a table, prepared after this manner, of the tuberculous population of the three cities for the 10-year period, omitting the Mexicans and those born within the confines of the State; in other words, the noninterstate migratory class. The percentages used are the same as those given above, as they are the averages for the 10-year period, but those for each of the individual years could have been taken instead, although the method adopted is considered the better of the two. The only variable factor is again

our ratio of deaths to the number afflicted; some will deem it too high, but it is believed to be a safe average. It is to be borne in mind that these figures do not represent the total tuberculous population, but only those who have at some time migrated from other States.

TABLE 6.—*Tuberculous interstate migrants in three cities.*

Year.	Albuquerque.	El Paso.	San Antonio.	Year.	Albuquerque.	El Paso.	San Antonio.
1904.....	1,665	2,111	3,108	1909.....	1,788	2,662	2,944
1905.....	1,911	2,206	3,297	1910.....	1,719	3,090	3,460
1906.....	2,005	2,463	2,795	1911.....	1,911	2,701	3,476
1907.....	2,051	2,453	3,351	1912.....	2,088	2,682	3,750
1908.....	2,142	2,919	2,999	1913.....	2,074	3,243	3,547

These are the figures for but three cities. When it is realized that innumerable smaller towns scattered throughout this western country have relatively a much larger tuberculous population, some idea of the large number who have flocked to that region may be gathered. Some one has stated that this section is but a vast sanatorium, a refuge for the afflicted, and whoever has an extensive acquaintance in that territory will corroborate this testimony. The populations of such towns as Kerrville, Comfort, Boerne, Alpine, and San Angelo, in Texas, are largely made up of health seekers, and it is a safe statement to make that 50 per cent of the inhabitants are there, or came originally, for the health of some member of the family. In western Texas alone there are probably 30,000 consumptives. Not all of these, however, are in an active stage of the disease, some having made complete recoveries.

In the majority of New Mexican towns, outside of the mining settlements, from 20 to 60 per cent of the families have had some member who was tuberculous, barring of course the Mexican population, but in Silver City the percentage will run as high as 80. Socorro, Las Vegas, Raton, Las Cruces, and many other smaller towns are largely composed of health seekers, and the ratio of sick to well is greater even than in Texas. The total number of consumptives in New Mexico is of course unknown, but granting that the ratio for the entire State is half that of the city of Albuquerque, there would be over 27,000. The National Association for the Study of Tuberculosis estimates that 10 per cent of the residents of the arid region are, or have some member of the family who is, tuberculous, and that annually 10,000 consumptives who are hopelessly diseased go West to die. There is not the slightest reason to doubt either of these statements.

The question arises whether the number of migrating invalids is decreasing, the general impression being that it is. Several explanations of this impression may be offered, the chief one being that the

far-advanced cases, the ones generally recognized, are less evident. With the increase of population the ratio of sick to well has fallen, although the actual number of invalids may have increased. The establishment of large State institutions in the East, and the better education of physicians and public, would also lead one to expect that some diminution had occurred.

Referring to Table 1 we find that the death rate per 100,000 for the several resorts is without exception diminishing, but it should be borne in mind that each of the cities cited has had a phenomenal increase in population during the last decade, and it is quite improbable that the total number of invalid migrants should have kept pace with this growth. San Antonio has increased from 71,000 to 110,000, but with such a rapid growth the city shows but little decrease in its tuberculosis death rate. El Paso during the 10-year period has practically doubled its inhabitants, and this explains the diminishing rate in that city. Bearing these facts in mind we must conclude that so far as the death rate indicates the proportion of sick to well shows a diminution, but that the actual number of cases migrating is increasing, and this in spite of the dissemination of information regarding the curability of the disease in other climates and the erection of large institutions for its treatment in the East.

Reference to Table 6 will serve, as far as these three cities are concerned, to further substantiate this statement. Albuquerque, San Antonio, and El Paso each exhibits an increase in its interstate migratory consumptives. When it is considered that these figures are based upon the mortality returns, and that as we shall later see the number of far advanced cases being sent to the West is decreasing, it becomes all the more apparent that the actual total of tuberculous migrants is increasing rather than diminishing.

#### **Stage of the Disease During which Travel is Performed.**

It is conceded that from a public health standpoint the far-advanced consumptive is, owing to cough and expectoration, of more danger than the incipient case. This is only true, however, if each is careless to the same extent, but a given far-advanced case may be, and often is, the safer of the two, as he may have had far better opportunity of learning how to care for himself as well as for others. The recognized invalid is the one chiefly feared, on the principle that what we do not know about we worry over but little. Few people seriously object to occupying a car with half a dozen early consumptives who present but little appearance of invalidism, but complain at once should a bed case appear.

As descriptive of the stages of the disease under which some of the travel is performed the following cases may be cited:

On a California train bound for Chicago was a boy of 19 accompanied by his mother. He had been at a town in northern Arizona,



had rapidly become worse, and the attending physician, realizing the lad's most serious condition, had informed the mother that it was hopeless to expect to get him to his home. But the mother yielded to the boy's importunities, and decided that his dying wish should be gratified. He was placed in a compartment and began the slow trip eastward. Fortunately there was a physician on board who rendered every possible aid, but the united efforts of mother and doctor were without avail and the boy expired still longing for a glimpse of his old home. On February 2 at El Paso a patient, friendless, unattended, and too poor to afford a berth in the sleeper, was being transferred from one train to another by the railroad attendants when he collapsed and died in his chair. In December a tuberculous invalid en route to San Antonio died in a drawing room of a Pullman when within a few miles of his destination. Numerous instances of this character could be cited from the records of every railway center. In the year 1912, on trains running into Albuquerque alone there occurred five deaths from tuberculosis, and since 1904 there has been an average of two a year. These facts are indubitable proof that the advanced cases that travel are still far too numerous.

While the actual number of far-advanced consumptives seeking climatic relief is undoubtedly decreasing, several circumstances tend to maintain or increase the number who are traveling. The majority of private practitioners when called to a hopeless case frankly advise, unless the conditions for his care are altogether satisfactory, the return of the patient to his home. Sanatoria are reluctant to have deaths occur within their midst; consequently all far-advanced cases are, if possible, transferred to their place of origin while yet able to travel. Charity organizations and city and county authorities much prefer to furnish transportation rather than quarters and care, and relief societies have found that it is much cheaper in the end to provide tickets, even to far eastern points, to patients who have no chance of recovery than to care for them during their last days and to provide burial at the end. These circumstances tend to favor the transportation of people in the last stages of the disease, and bed cases, or those which should be bed cases, are so common on trains running to and from the resort cities as to excite no comment among railway employees.

The following tables, based upon the length of residence previous to death of those dying in Albuquerque, San Antonio, and El Paso during the last 10 years, will give some idea of the number of hopeless invalids carried, and at the same time inform us as to the utter uselessness of far-advanced cases seeking climatic benefit. It should be remembered that these figures represent only a few of those who have traveled in one direction, the large number who have migrated and then returned to their homes in a critical condition not being

mentioned. The figures refer to length of residence in the city and not in the State, and they include all classes.

TABLE 7.—*City of Albuquerque—Length of residence in the city of those dying of tuberculosis.*

Year.	Tuber- culosis deaths.	Under 30 days.	30 days to 6 months.	6 to 12 months.	1 to 2 years.	2 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.	Un- known.
1904.....	122	17	41	14	12	16	3	1	1	1	16
1905.....	140	29	42	11	12	20	14	1	2	2	9
1906.....	147	22	48	16	17	14	4	5	3	7	11
1907.....	151	32	46	23	11	21	4	1	1	2	10
1908.....	157	20	53	22	6	24	9	3	2	8	10
1909.....	131	18	45	11	10	17	18	1	1	7	3
1910.....	126	17	33	10	9	23	12	3	7	4	8
1911.....	140	26	42	15	10	22	5	3	2	4	11
1912.....	153	23	50	18	7	24	18	-----	1	4	8
1913.....	152	18	39	20	17	12	14	6	3	8	15
	1,419	222	439	160	111	193	101	24	21	47	101
Per cent.....		15.6	30.9	11.3	7.8	13.60	7.1	1.7	1.5	3.3	7.1

Consulting Table 7, we find that of the deaths in Albuquerque during the last 10 years 15.6 per cent occurred within 30 days after arrival. This is a high percentage and plainly shows that many were in a dying condition when they went there, some, in fact, expiring in the station and others but a few hours after reaching the city. Besides these, 30.9 per cent of those dying lived less than six months after arrival, giving us a total of 46.5 per cent of deaths occurring within the first six months. Surely we can arrive at no other conclusion than that these cases, barring those that developed miliary tuberculosis, meningeal or other severe complications, were all too ill to have ventured forth when they stepped on the train. The percentage of those recorded as having lived from 6 to 12 months in the city was 11.3 per cent; thus 57.8 per cent of all these deaths took place within one year of arrival.

The figures for El Paso are fully as instructive and demonstrate that the railroads are forced to carry as many dying patients in that section as farther north.

TABLE 8.—*City of El Paso—Length of residence in the city of those dying of tuberculosis.*

Year.	Tuber- culosis deaths.	Under 30 days.	30 days to 6 months.	6 to 12 months.	1 to 2 years.	2 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.	Un- known.
1904.....	222	44	66	23	21	27	10	14	4	5	8
1905.....	232	35	67	15	16	31	23	9	4	9	23
1906.....	259	45	57	21	23	27	28	12	11	11	24
1907.....	259	37	54	34	28	30	23	19	7	16	20
1908.....	307	40	63	26	32	48	43	19	17	13	6
1909.....	280	34	62	21	22	48	36	15	12	18	12
1910.....	325	30	33	19	15	28	35	12	12	13	128
1911.....	284	22	45	20	15	37	31	18	11	17	68
1912.....	282	12	43	26	21	25	32	22	13	12	76
1913.....	341	22	41	26	27	34	27	26	15	15	108
	2,791	321	531	231	220	335	288	157	106	129	473
Per cent.....		11.5	19	8.3	7.9	12	10.3	5.6	3.8	4.6	16.9

For the 10-year period 11.5 per cent of all fatal cases died within 30 days after arrival; 19 per cent in addition lasted less than 6 months, making a total of 30.5 per cent. This is a much better showing than that of the previously named city, the reason being the much larger percentage of cases in which the length of residence in the city was unknown, and also because the Mexican population, who have a much longer length of residence, is considered. Eliminating this class, it is found that 18 per cent of the deaths occurred within 30 days after arrival, and an additional percentage of 28.7 within 6 months, this covering a period of 6 years. As far as the migrants are concerned, therefore, the two cities exhibit practically identical figures, 46.5 per cent in Albuquerque, and 46.7 per cent in El Paso of all deaths resulting before a residence of 6 months is completed.

The figures for San Antonio during the 10-year period are given in Table 9, the percentage of deaths under 6 months after arrival being 32.7 per cent, the 30-day cases not being available and the Mexicans being included in the computation. Without the latter the percentage would be as high as either of the two previously named cities. Even this figure is far above that which the California commission found in the southern section of that State—17 per cent.

TABLE 9.—*Length of residence at San Antonio.*

Year.	Tuber- culosis deaths.	Under 6 months.	6 to 12 months.	1 to 2 years.	2 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.	Un- known.
1904.....	397	170	28	20	32	23	24	23	58	19
1905.....	421	158	32	22	40	35	26	17	51	40
1906.....	357	138	32	22	39	34	13	20	42	17
1907.....	428	181	30	28	31	38	21	21	49	29
1908.....	383	133	32	20	48	40	21	25	43	21
1909.....	376	125	20	31	34	31	30	16	55	34
1910.....	442	129	32	36	61	32	32	14	76	30
1911.....	444	105	32	36	63	36	32	28	72	40
1912.....	479	114	36	43	61	44	23	33	83	42
1913.....	453	113	22	23	45	44	22	18	67	99
	4,180	1,366	296	281	454	357	244	215	596	371
Per cent.....		32.7	7.1	6.7	10.9	8.5	5.8	5.1	14.2	8.9

A case of tuberculosis dying within 30 days after arrival, unless such death be due to sudden and unforeseen complications, ought never to have been sent to any resort. And yet at Albuquerque there were 222 cases of this character, and at El Paso 321 in the 10-year period, this not taking into account the far greater number whose condition was critical and who were immediately returned. When nearly one-sixth of those dying expire within 30 days after reaching their destination no one need tell us that some one has grievously erred in sending such patients forth.

Among physicians practising in the resort cities it is the consensus of opinion that it is far better for every patient whose expectation

of life is less than six months not to seek climatic change, unless of course it can be obtained with every degree of comfort—the hardships imposed, the annoyances and sufferings, and the absence from friends and relatives in the last days of one's existence but merely hastening the end. It is not always possible, even for physicians, to indicate patients in whom a fatal termination may be expected within this period, but with a reasonable degree of care many cases of this character could be eliminated. At Albuquerque the average annual mortality among invalids of this class is 55, at El Paso 71, and at San Antonio 114, to say nothing of the many hundreds who are returned to their homes. The majority of these were of course too far advanced to receive more than the slightest benefit, and it is to be feared that the change in numerous instances only hastened the end.

Physicians who are interested in the climatic treatment of tuberculosis may claim that these tables are altogether misleading, in that they take no account of the vast number who visit the resorts and improve or recover. This is true. They were not compiled with that intention in view, there being no means other than institutional statistics for furnishing that information. The data given is merely to prove that the number of far advanced cases of tuberculosis that are passengers upon interstate trains is exceedingly large.

The question immediately arises whether the number of hopelessly ill traveling to and from the resorts is increasing or diminishing. We have seen that the actual number of invalids is almost without exception increasing, although less rapidly than the population of the resort cities, but with the far advanced cases it is a different matter.

The agitation against sending far advanced consumptives to western resorts culminated in 1907 and 1908 when extensive press notices decried the injury done in transporting patients dangerously ill these long distances. Previous to that time the medical press had repeatedly called the attention of the profession to the utter futility of the practice and the great injustice to the traveling public, as well as to the patients themselves.

The accompanying charts have been prepared with the idea of showing what benefit has been derived from the wide publicity given the subject. Chart 1 shows the length of residence of those dying at Albuquerque in the ten-year period ending 1913, the dotted line indicating the percentage of those who died having lived less than 30 days after arrival, the remaining line those who lived less than six months after reaching their destination. It will be seen that in 1907 and 1908 both lines descended to a slight extent, but as far as this one city is concerned the agitation apparently resulted in very little benefit. The chart relating to El Paso tells a different story. Both

the 30 day and 6 months' cases have decreased by half, and the figures at San Antonio, which have been worked out but are not presented, show a like diminution.

**Methods in Use on Cars for the Protection of the Traveling Public.**

The necessity for the sanitation of railway coaches has probably been apparent to every enlightened traveler, and the subject is one which at present is receiving far more attention, not alone from those interested in public health work, but from the railroads themselves, than in years past.

So far as travel in our own country is concerned there are really four classes of accommodations, the compartment and drawing room sections of Pullmans, the standard Pullman, the tourist car, and the day coach or chair car. The Pullmans, including the tourists, are as a rule on much longer runs, but invariably have an official other than a trainman in charge, and are under one management; the day coaches are on shorter runs, are not as closely supervised, and are cared for by the individual roads. The sanitation at terminals, and the precautions observed while in transit, differ materially, not only in the same State but of cars running over the same roadbed.

*Pullman coaches.*—Pullmans, and by Pullmans we shall hereafter include tourist cars, are fumigated at varying intervals. Texas has legislated in this matter, requiring fumigation twice every seven days, but on certain routes specified by the president of the State board of health, only once in seven days, and Oklahoma and Louisiana once a month. New Mexico is without regulations requiring disinfection. Every attempt is made by the Pullman Co. to comply with the laws of the respective States, and it even goes further and fumigates cars on certain runs oftener than the law compels, and on any line when sickness is reported. All conductors and porters have specific instructions regarding the reporting of illness. In the opinion of the writer, these instructions are complied with, to the extent that bed cases, and in some instances those that are about, are reported as ill.

The permanganate-formalin process is used and the method is the same at practically all terminals. The windows and the ventilators are closed. All berths are lowered, and the bedding, except the linen, which has been previously removed, is exposed, the curtains being hung in their accustomed place. Three containers are used, the permanganate and formalin being given to the fumigator in measured quantities. Exposure is usually for three hours, but at some terminals only two hours are deemed necessary. In each car a fumigating record is kept, with the date of treatment, the duration, and the signature of the workman or foreman. Examination of these records



in a large number of coaches shows in most instances more fumigations than the law requires.

For the most part the work is performed by untrained men who have no knowledge of why they are doing it; hence it is often carelessly done. The writer has repeatedly observed fumigation proceeding with both toilet ventilators, apertures 6 inches in diameter, wide open, and he has yet to find a fumigator painstaking enough to close the bell-cord holes at either end of the car. Pullmans when compared with ships and ordinary dwellings, are much easier to

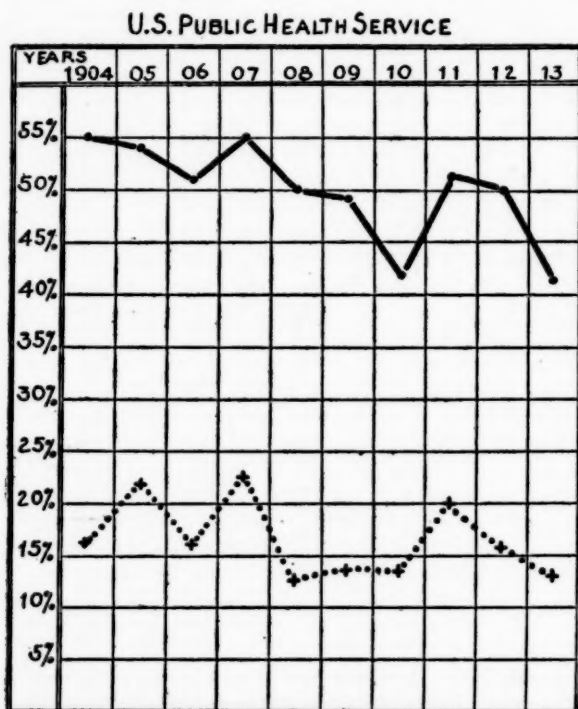


Chart 1.—City of Albuquerque. The dotted line indicates the percentage of deaths occurring within thirty days after arrival, the black line those within six months. Note that the decrease in the number of cases dying within thirty days after arrival has been slight.

treat, as they are fitted with double windows, have fewer openings, and are altogether tighter; therefore the process, except the preparation of the bedding, is rapid, simple, and inexpensive. An exposure of three hours is under ordinary conditions, sufficient, but in the Southwest where the humidity is extremely low, a longer time should be given. Complaints are occasionally entered by passengers of the irritation from the formaldehyde, but this is most apt to occur on damp, still days when the car has not been aired for a sufficient period or goes into service within a few hours of fumigation; frequently the cause of this is the evaporation of formalin used in the cuspidors by

the heat from steam pipes. The efficiency of the fumigation, then, can be said to be in direct proportion to the intelligence and care of the man performing it, perhaps averaging fairly well with that of some health authorities.

Following the fumigation of the car, "stripping," which consists in the removal of mattresses and bedding, carpets, and the removable portion of the seats, is in order. "Stripping" is usually done as often as once a week, weather and other factors permitting. The ideal

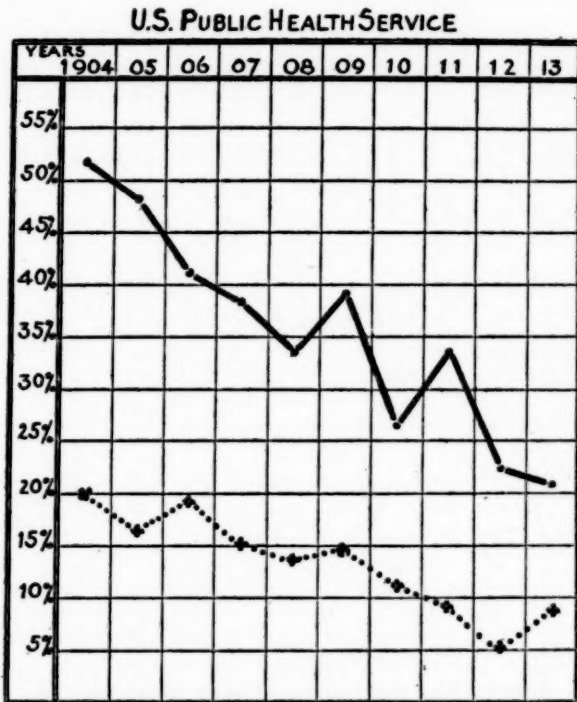


Chart 2.—City of El Paso. The dotted line indicates the percentage of deaths occurring within thirty days after arrival, the black line those within six months. Note that the number of cases dying within thirty days after arrival is steadily decreasing.

method for the further treatment of the car is by the use of compressed air.

All windows, ventilators, and doors are opened. Air is delivered to a workman through a hose from a central station under a pressure of from 60 to 90 pounds. Various forms of nozzles are used, depending upon the character of the work. The operator should invariably wear a respirator and the number of hours of employment should be limited, for at the best it is a dangerous and debilitating occupation. Beginning at one end of the car, reaching back of berths, behind steam pipes, and into other recesses, the "blowing," as it is termed, proceeds, the dust being disseminated through doors and windows.

Not less than three-quarters of an hour should be devoted to each car in order to accomplish thorough work.

Theoretically the vacuum process, which picks up rather than disseminates the dust, should afford better results than compressed air, but practically it does not. No vacuum system has yet been devised which will reach into the numerous recesses of a car and withdraw dust and dirt, and on bare floors its use is also attended with difficulties, but with carpets, cushions, and like surfaces it works satisfactorily. The other advantage of compressed air is its availability in many railroad yards.

In many important railway centers neither the pressure nor vacuum process is in use. In some yards there are no compressors, in others the air is not piped a sufficient distance, and other reasons prevent its universal adoption. San Antonio, a city where it is highly important that coaches should be as thoroughly cleaned as we know how to do it, has no such system, and numerous other cities could be cited.

The removable portion of the upholstery and bedding is treated outside the car. Blankets are suspended or laid upon racks and gone over carefully with air until the current penetrates dustless, mattresses being afforded the same treatment.

Where "blowing" is impossible, the old hand method of beating is in use, a tiresome, expensive, and never satisfactory process. Carpets are quickly cleaned by air if available; otherwise they are beaten. All curtains are gone over, the spots found being sponged with a weak formalin solution and then with soap and water.

Vermin, in the writer's experience, is unusual in Pullman cars, but with the bringing in of so much baggage some danger of infestation arises. In the majority of districts, therefore, cars are treated with an efficient antivermin preparation twice a month; in other places less often. All seats are brushed over carefully with the liquid, the edge of the upholstery being raised if necessary, and the recesses of berths are similarly covered. Whenever vermin appear in any number it is conclusive evidence that some part of the cleansing process has been shirked. Tourist and buffet cars, where food is more frequent, may harbor roaches.

Cuspidors at the commencement of a trip contain a small amount of 5 per cent solution of formalin, and an additional supply is carried in every car for this purpose. It is seldom used and a dry cuspidor is the rule after the first day's run. At terminals the cuspidors are washed, the washings usually being dumped down the hopper. They are then polished, the cleaning process being done in the smoking room. In some districts they are sterilized by live steam, a desirable method. The use of a smooth surfaced cuspidor is also advantageous.

Instructions regarding the treatment of water containers are very specific, complying with the requirements of the Interstate Quarantine Regulations, which provide that they "shall be cleaned and thoroughly scalded with live steam at least once in each week that they are in operation." The date of the steaming is usually chalked up on the containers. The instructions also state that the hand shall never be placed in the container after it is steamed, and that the covers should always fit tightly. All new cars and those going to the shops for repairs, are equipped with separate ice and water tanks, a decided advantage. The same regulations also require certification as to the character of the water and ice used.

Toilets are cared for by washing, preferably with kerosene to remove the discolorations from soot, or with soap and water, and then gone over with a 5 per cent solution of formalin. The further cleansing of the car consists in the use of soap and water wherever necessary, the woodwork being rubbed down, brass polished, and windows cared for. Practically all the work is done in the open air where there is a constant supply of the best disinfectant, sunlight.

*Coaches other than Pullmans.*—The methods used in the sanitation of Pullmans are, with unimportant modifications, identical throughout the country, the same inspectors checking up the work and determining whether it is thoroughly and efficiently performed. In the case of other coaches chaos reigns. There is no system, the methods are not standardized, the equipment is more apt to be poor, and hence unsanitary, and much of the cleaning is improperly done, the work usually being in charge of a yard foreman who has many other important duties. Therefore the statements made regarding the sanitation of Pullmans are in no sense applicable to day coaches.

Compressed air is used if it is available, but as the routes of day coaches are often between less important terminals it is more often lacking. Sweeping is the substitute, and its degree of thoroughness can be determined by anyone who cares to inspect the recesses beneath steam pipes and seats, dirt being caked so thick in many cars that it can be pried off with a knife. Fortunately the wooden floor is being displaced by the composition floor, which lacks the cracks and crevices. Carpets are treated with compressed air outside the car; otherwise they are beaten, and cushions are similarly exposed. The floors are mopped with a weak solution of some antiseptic, usually one of the carbolic preparations.

Contents of cuspidors are dumped in the most convenient place, oftentimes down the hopper, but in some yards receptacles are provided. As they often contain banana peelings, orange skins, and other refuse this material becomes scattered indiscriminately about the yards. The average cuspidor in use in day coaches is highly insanitary. It is large, easily capsized, becomes the receptacle for

refuse, and, worst of all, owing to erosion, it can be only imperfectly cleaned, even by those who show any inclination to properly clean it. It therefore should be condemned from a sanitary, æsthetic, and every other standpoint. The cleaning of cuspidors is at times performed in the coaches themselves. With two pails and a stiff brush the workman goes through a car, bespattering seats—as disgusting a spectacle as one could look upon.

Water tanks are afforded the same treatment on all interstate cars. Toilets are cleaned with soap and water and then with a disinfectant solution. Basins are likewise attended to, and the woodwork is supposed to be gone over with a damp cloth. In a very limited number of cases the cleaning is as thoroughly done as that of Pullmans, but as a rule it is far inferior, although the necessity therefor is even greater.

Fumigation is seldom resorted to, but on a few roads it is performed previous to cleaning for the safety of the employees. The Texas State law does not compel the fumigation of day coaches, but does describe how they shall be cleaned, and the frequency thereof, the discrimination probably being made on account of the supposed greater danger of Pullmans.

#### Precautions Observed while in Transit.

Precautions observed for the protection of the public must, in most part, be accomplished at terminal stations, for after a car is in transit railroad officials are dealing with a heterogeneous mass of people whose personal habits are widely variant.

Pullman cars accept for transit all classes, the sick and the well. People who are severely ill do not purchase their own transportation and they are often brought to trains on stretchers, to be loaded into a car by way of a window. In every such instance the company urges occupancy of a drawing room or compartment, but many can ill afford this expense. Consumptives are received equally with others. Conductors have strict orders that all berths occupied by people of this class shall remain unsold and closed until the car reaches its destination. This order is undoubtedly complied with as regards bed cases, but we can not expect conductors and porters to recognize more than a very small proportion of those who are suffering from this disease. Illness of whatever nature is required to be reported to the superintendent's office, and following such reports all cars are promptly fumigated.

Few people with tuberculosis who travel exercise any precautions whatever. Beneficiaries of the three Government sanatoria are provided with pocket sputum cups, a colored 5 per cent phenol, or other disinfectant solution, and are properly instructed. Others, particularly those who have resided at sanatoria, give some thought to



their neighbors, but the vast majority of consumptives, as well as healthy persons, are careless with their sputa.

A decidedly salutary measure, advocated by the Public Health Service in 1905, and for the carrying out of which the Pullman Co. deserves great credit, is the adoption of the third sheet on all berths. Various States have seen fit to legislate regarding the length of sheets in hotels, and such legislation has often been derided as farcical. The idea is that the clean linen should protect the sleeper's face from a blanket which may have become soiled or infected, but the sleeping-car company has gone a step further and provided all beds with a third sheet which completely covers the blanket.

The introduction of the dental lavatory is a sanitary measure also recommended by the Public Health Service in 1905. As yet all cars are not so equipped. As long as Americans consider that soap is not a toilet article to be provided by the individual, liquid soap should be furnished. The abolition of the common drinking cup and common towel is a measure to which the public has become thoroughly accustomed.

The ventilation and heating of coaches certainly has a bearing on health and comfort. Most cars are miserably ventilated. Recently the introduction of such patented devices as the Garland system has done much to improve conditions, but rock ballast, oiled roadbeds, and oil-burning locomotives have also made it possible for each traveler to have a modicum of fresh air. While newer ideas have recently come into vogue concerning ventilation, no one doubts that the value of pure fresh air is as great now as it has ever been.

The overheating of cars is another abuse. Under the old system where it was impossible to shut off steam at any one point there was doubtless some excuse for this condition; now with the vapor method coming into general use temperatures should be more even. Coaches should be, and the majority are, equipped with thermometers.

The distances traveled by coaches has much to do with their sanitation. With Pullmans long runs are required, but freshly cleaned day coaches can be switched in at important terminals as substitutes for those which require attention. Many such runs are broken, and more should be. At one Texas point a coach was observed which had a run of 1,350 miles, and the only cleaning it received during that time was being performed with 30 passengers in the car, one of whom was a dying consumptive en route to California. All were inhaling the dust which rose in quantities from the floor.

There remains to be mentioned really the most important aspect of the question, that which deals with the people themselves. The ordinary traveler is filthy beyond belief. A day coach at the completion of a 600-mile run is a sorry spectacle. Bread, meat, pickles, and banana skins litter the floor, sputum is everywhere, and if one or

more cuspidors have not been upset on the journey it is the exception. The railroad company is hardly responsible for this. The coach may have been as clean as human hands could render it when it left the yards; it returns in this disreputable condition simply because the public would have it that way. No remedy for promiscuous spitting, the greatest evil, has yet been found. The mate who was accustomed to order one of his deck hands to stand by the careless spitter, and each time the deck was soiled to swab it up, came nearest to the solution of this problem of any human being. Public vehicles are only as sanitary as the public chooses to keep them, and when the people correct their habits this problem will largely solve itself.

#### **The Dangers to Travelers and Employees.**

Are railway coaches a source of infection in tuberculosis to travelers and employees? We have gained some idea of the large number of consumptives carried to and from the resorts, to which we should add the many thousands who daily mingle with the traveling public; we have seen that a large proportion are far-advanced cases, many even being bedridden, and that the precautions which should be observed are almost totally lacking. Also, that the cleaning and sanitation of one type of car, the Pullman, is standardized, being on a fairly satisfactory basis, but that all other coaches are cared for under different rules and regulations, the attention rendered the majority being imperfect. Yet with all of these facts before us an answer to the above question is difficult.

The question of methods of infection in tuberculosis is of paramount interest. Theories have been advanced again and again, each being but a step toward the scientific truth, and we have still much to learn before our knowledge of how this great scourge is passed from one generation to another is complete. Within the last few years facts have been marshaled which go a long way toward proving that our previous views, while not altogether erroneous, need modification. A brief knowledge of those views is necessary for a proper consideration of this subject.

Infection in tuberculosis results from close and perhaps prolonged association with some individual suffering from the disease. The nearness to the individual is not important, although droplet infection from forceful coughing is more apt to occur if contact is close, but the mere occupancy of a room previously used by a consumptive who has been careless in the disposal of his sputum is sufficient. Heat, poor ventilation, and lack of sunlight, increase the liability of infection, dust also acting deleteriously. Under ordinary conditions dishes are probably not responsible for the spread of the disease, but

blankets and soiled or imperfectly cleaned linen may be an important source of infection.

Childhood is the age when infection is most apt to occur. This is demonstrated fully by both the tuberculin test and post-mortem examinations. There are doubtless few children under the age of 15 who have been accustomed to visit public places who remain uninfected. In its earliest stages the disease may show itself in only slight anemia, poor physical development, or other mild ailment, and primary infection does not by any means indicate that the child is to become tuberculous in his later years, other factors entering into the matter. However, the importance of childhood infection can not be overestimated, for the greater number of cases date from this early period of life, the disease having remained dormant for years.

Adults are far less susceptible to tuberculosis than was formerly supposed. That is, a healthy person can be, and often is, in close contact with the tuberculous, receiving no harmful effects, the immunization acquired in his early days protecting him in his later years. But should other infections occur, or should the individual become debilitated through dissipation, long hours of labor, close confinement, or other causes, the dormant infection of his youth may become active; in other words, he reinfects himself from an infection which he long ago conquered.

Acceptance of these facts compels us to modify some of our ideas regarding the disease. We must go much further back than the development of ordinary symptoms to locate the infection, and we must take into consideration not one factor alone, the presence of the bacillus, but every other consideration. The problem of prevention, therefore, would seem to have become more and more complex, but in reality it is simplified. The tubercle bacillus has lost none of its dangers, for it comes from its lurking place to attack the young in a battle the destructiveness of which may not be in evidence for a generation. Our warfare against such a treacherous agent should be as unceasing and relentless as it has ever been, but not until we have captured the entrenchments, bad housing, poverty, long hours, and darkness, behind which it is battling, can we hope to succor the race. We have been throwing our forces not at the wrong point, but at a single point, when the attack should have been general all along the line.

Many of the conditions cited as predisposing to the infection and development of tuberculosis are present in railway coaches. The infective agent, the traveling consumptive, is common enough, and the soil is ready for the implantation. Fortunately, the exposure is usually of short duration, but the length of time necessary to produce infection is undetermined. Dust, insufficient ventilation, and over-

heating can have nothing but a deleterious influence even upon the well, none of these conditions actually causing tuberculosis, but all being strong predisposing factors. Next to close contact in homes in which careless consumptives are residing, the public gathering places, such as moving-picture halls, theaters, street cars, and schools, afford the best opportunity for infection, and we are therefore warranted in concluding that in the light of our present knowledge railway coaches are also at least possible sources of contamination.

To prove this contention from the mortality statistics of employees would be a difficult procedure, and even if figures were given they would, in view of our acceptance of recent knowledge regarding infection, only demonstrate that great debilitating influences were present. Railway workers are as a class a selected group, the greater portion of whom live an outdoor life, and all are necessarily temperate. Their mortality from tuberculosis should be low, even considering those who labor in a somewhat depressing environment. Porters live irregular lives, with long hours of confining duty; consequently their death rate should be high. Would it not seem then that any deductions made from the mortality records of either of these two classes would be quite apt to be erroneous?

The question arises whether the dangers from imperfect sanitation are of equal magnitude in all forms of railway coaches. For some reason, by the popular mind the sleeping car is considered the greater menace. Just why this is so it is difficult to say, but doubtless because of the bedding, curtains, plush, and other supposedly germ-catching fixtures, as all coaches are used more or less for sleeping purposes. As a matter of fact, the Pullmans are much more thoroughly cleaned, are better cared for en route, and they at least cater to a class of people whose habits are if anything less pernicious than those who are too poor to afford these comforts. The number of children they carry—and childhood is the age of infection not alone in tuberculosis, but in many other diseases as well—is inconsiderable compared with those who travel in either tourist or day coaches, a decidedly important consideration. It would seem, therefore, that we are warranted in saying that the day coach is the greater menace, the tourist car next in order, owing to the fact that it is often crowded, and the standard Pullman the least dangerous. Fortunately, smoking cars, where spitting is most promiscuous, are not frequented by children.

#### **Measures Variouslly Suggested for Control of the Migration of the Tuberculous.**

Numerous suggestions have been offered for the control of interstate tuberculous traffic. Some of these are visionary; others are prohibitive as to cost; many are impracticable, while still others are hardly justified.

The broadest and most comprehensive plan which has been offered is for the National Government to regulate the traffic by a system of inspection, requiring the issuance of a permit to all prospective infected interstate passengers. This arrangement is one which has been followed successfully in times of severe epidemics, such as outbreaks of yellow fever, and has proved its worth, but no fair-minded person can believe that the seriousness of the present problem justifies an extreme measure of this character. The cost of maintaining such a system would be entirely out of proportion to its value. It would require a force scattered in every large city of the United States, and while not wholly impracticable, it is altogether unnecessary. The plan, then, may be dismissed at once.

Another suggestion is for the individual States, more especially those in the resort area, to establish a quarantine at the State boundary, permitting only those consumptives to pass who are properly provided with funds and in other respects desirable. This measure, then, would be one in which each Commonwealth answered for its own welfare, regardless of its neighbor, and would serve only indirectly, namely, by diminishing the number of interstate passengers, in solving the problem. This plan has been frequently advanced, and almost every year a dispatch from some center announces that the State is seriously contemplating putting it in operation, or if not the State, then the city, but as yet none has had the courage of its convictions in the matter. As a public health measure no justification for such a severe enactment as this can be found; from a humanitarian standpoint it is to be utterly condemned, and as a bar to indigent consumptives the expense would exceed the cost of maintaining every pauper invalid in any district.

Hospital cars have been suggested as a solution of the problem—in other words the segregation during transit of all traveling consumptives. The originators would have a car, properly equipped and used for this single purpose, leave an eastern terminus at a specified date, perhaps once a week or oftener—they do not specify—gather in coughing invalids en route, and deposit them in the various resort towns after a comfortable and satisfactory journey. Just how many coaches of this character would be required no one has determined, and how they would visit the thousand and one cities of the East, and at whose expense, has also not been figured out. Who would select the invalids for this car is undecided—certainly not the ticket agent or conductor, but more probably a physician, who would surely face a herculean task, and might even meet with some opposition in his efforts to secure passengers for that particular vehicle. It is believed that with a capable inspection service, for the system necessarily requires the establishment of just this, some 10 per cent of consumptives could be enticed, coaxed or driven into



a car of this character. In no instance could a coach be filled to its capacity, and it is to be feared that the railroads would soon learn the unprofitableness of the venture. In that case would the invalids or Government be forced to bear the expense? No one can deny that the entire scheme is a totally impracticable arrangement, impossible of carrying into effect on account of the opposition which would develop from all sides, expensive, and even unnecessary.

Segregation in the compartments of Pullman cars, a modification of the foregoing, is more adaptable. Whenever possible this is done at present, purchasers of tickets showing indications of illness being urged to secure drawing rooms or compartments, the agents even going so far at times as to refuse transportation unless this is done. The compartment then remains closed until the terminus is reached, when it is fumigated. One drawback to this is the expense which falls upon the individual, and the recent increase of rates for such space has augmented this still further. A second objection is that the greater part of the traffic, 80 per cent at least, is in day or tourist coaches, and it would be extremely difficult to divert it to the Pullmans. If a compartment were to be permanently reserved for such use the expense would again be a matter of consideration. It would appear, however, that this is the most feasible plan yet offered and probably could be executed with the least degree of difficulty, although naturally serious objections to it would be raised.

It is not difficult to see that any plan which has for its basis the recognition of the disease in the individual, an impossible procedure in more than a small minority of cases, and the segregation of those selected, is bound to meet not only with opposition but with great difficulty of enforcement; furthermore, it is doubtful under our present views if such regulations are at all necessary. The better sanitation of cars is however a necessity, and this, too, irrespective of whether they carry consumptives or not; it would therefore seem logical so to adjust our sanitary requirements as to render public vehicles safe at all times, giving special attention to those which travel to and from the resort cities or those which are deemed most dangerous.

It is to be presumed that the institution of measures of this character would be accomplished through promulgation of amendments to the existing interstate quarantine regulations, the standardization of present methods used in the sanitation of cars, the introduction of whatever new methods are deemed advisable, and the institution of regulations to be observed by passengers while in transit.

We are of the opinion that too great consideration can not be attached to the cleaning of cars by compressed air, and that the system should be in far more general use than at present. It is impossible to reach the recesses and crevices of the ordinary coach by any

other means, dirt and dust, the two great vehicles of infection, being certain to accumulate, rendering the car insanitary. Without compressed air no car can be thoroughly cleaned, the sweeping and mopping of floors serving but to distribute the filth in the various recesses, there to remain for months. As an agent in the cleaning of mattresses, bedding, and upholstery, it is ideal; it eliminates dust and is altogether the most rapid, the cheapest, and the most scientific method for the treatment of cars, being an essential basis for all further steps in their sanitation. The frequency of the use of this process is a matter to be settled, but as the method serves as a substitute for sweeping and the brushing of upholstery, once the system is installed it would be used at all times when the cars come into the yards for treatment.

Within recent years our ideas regarding the benefits of disinfection have greatly changed, and opinions concerning the value of the fumigation of rooms following infectious diseases have been modified. No one now believes that disease is spread through some mysterious power of the atmosphere, but that microorganisms are conveyed through particles of dust remains unquestioned. In the controversy which has been waged no one has denied that the systematic disinfection of rooms occupied by consumptives was other than necessary, it probably being more essential than in any other infectious disease, although serious doubt has been raised as to the efficacy of this or that particular method.

The possibility of the fumigation of all railway coaches at stated intervals arises. It is probably true that much of the work done along that line at present is ineffective, gives only a false sense of security, and is a mere outward compliance with the law, but these are hardly sufficient reasons for condemning fumigation when properly carried out. The process is an extremely simple one as far as railway coaches are concerned, occupies but a few hours, can be performed by the average laborer, and is relatively inexpensive. Coaches traveling to and from the chief resorts cities should unquestionably be treated in this manner at frequent intervals.

If a system of fumigation were adopted it would require the use of formaldehyde, the only gas applicable to railway cars, others being injurious to fabrics or having other disadvantages. Some doubt has arisen concerning the worth of this method especially in the absence of moisture, the gas itself not being germicidal, and in the dry atmosphere of the health belt the difficulty would be even greater. The only alternative would be the use of a disinfectant spray from a compressed-air generator. This method also has the advantage of cheapness, is much more generally used abroad than in our own country, and is claimed by the newer exponents of disinfection to be vastly

superior to the generation of gas, besides offering a large range of disinfectants from which to select.

Whenever a car is disinfected by the foregoing method, a record of such disinfection should be kept where it is easily accessible. Such a record should give the place of disinfection, the date, the number of hours of exposure, and the name of the person doing the work.

Some provision should be made toward providing every car with a certain number of cuspidors of standard size. They should be non-capsizeable, easily cleaned, and of such material that chipping or eroding of their surfaces is impossible. A disinfectant solution of known coefficient should be used, and their bottoms should be kept covered with this at all times. The strength of formaldehyde solution ordinarily used is 5 per cent, and under ordinary circumstances this is sufficient if there has been no evaporation of the liquid by heat, but too frequently cuspidors become dry while in transit, hence there is no disinfectant action whatever. The cleaning of all sputum receptacles within cars should be forbidden, and steaming required at terminals for the purposes of disinfection.

Many other suggestions will offer themselves. The sale of unoccupied portions of sections occupied by the tuberculous should be prohibited, and the further use of such sections after being vacated should not be allowed until the car has undergone fumigation. The third sheet for bedding has passed from a sanitary innovation to a sanitary necessity. Dental lavatories should be installed and all cars supplied with liquid soap. The laundry work of Pullman and other cars is performed in various cities of the country, and while the majority of laundries treat their straight white goods by boiling, this is not always the case; sterilization of linen in this manner should therefore be required. The cleaning of cars in transit, especially dry sweeping and dry dusting, should be forbidden. Some limit should also be placed upon the distance traveled, or the time in service, of day coaches without undergoing cleaning. Provision should be made for the proper cleansing of refrigerators, lockers, and drawers of dining and buffet cars. The occupancy of such cars for sleeping purposes by waiters and porters is to be deprecated, but of course this is a necessity; a place for the proper storing of mattresses and bedding away from all food products is essential. Water coolers and individual drinking cups are already provided for under present regulations.

#### Summary.

1. Consumptives are frequently occupants of railway coaches going to and from the resorts.
2. The number of consumptives traveling to and from the resort towns of the Southwest is increasing.

3. A large proportion are in a far-advanced stage of the disease.
4. The proportion of far-advanced cases is decreasing.
5. Proper precautions to prevent the spread of infection are observed by only a small per cent of the afflicted.
6. The greatest number of consumptives occupy day coaches, next the tourist Pullmans, and least the standard Pullmans.
7. The sanitation of Pullman cars is systematized, the instructions are specific, and the work is generally carefully performed.
8. The majority of other coaches are imperfectly cleaned.
9. The traveling public is responsible for many of the evil conditions which exist.
10. Railway coaches are a possible source of infection in tuberculosis.
11. Whether they are or not, their sanitation should be regulated.
12. As with other public health problems, the control of the migration of the tuberculous in interstate traffic is largely a question of education. In bringing this about, the adoption and enforcement of reasonable regulations to improve car sanitation and the personal hygiene of travelers are to be desired.

[This article will be continued in a subsequent issue.]

## PLAGUE-PREVENTION WORK.

### CALIFORNIA.

The following reports of plague-prevention work in California have been received from Passed Asst. Surg. Hurley, of the United States Public Health Service, in temporary charge of the work:

**Week Ended Mar. 13, 1915.**

*San Francisco, Cal.*

RAT PROOFING.		RAT PROOFING—continued.	
New buildings:		Old buildings—Continued.	
Inspections of work under construction..	324	Concrete floors installed (50,234 square feet).....	49
Basements concreted (31,448 square feet) ..	37	Basements concreted (13,172 square feet).....	16
Floors concreted (36,776 square feet).....	13	Yards and passageways, etc., concreted (18,449 square feet).....	61
Yards, passageways, etc. (32,143 square feet).....	97	Total area concrete laid (square feet)...	81,855
Total area of concrete laid (square feet). 100,367		Floors rat-proofed with wire cloth (12,491 square feet).....	9
Class A, B, and C (fireproof) buildings:		Buildings razed.....	9
Inspections made.....	261	New garbage cans stamped approved..	288
Roof and basement ventilators, etc. screened.....	3,420	Nuisances abated.....	352
Wire screening used (square feet).....	17,230		
Openings around pipes, etc., closed with cement.....	10,271		
Sidewalk lens lights replaced.....	14,682		
Old buildings:		OPERATIONS ON THE WATER FRONT.	
Inspections made.....	704	Vessels inspected for rat guards.....	14
Wooden floors removed.....	60	Reinspections made on vessels.....	35
Yards and passageways, planking removed.....	15	New rat guards procured.....	10
Cubic feet new foundation walls installed.....	7,340	Defective rat guards repaired.....	11
		Vessels on which cargo was inspected.....	1

AMOUNT OF CARGO INSPECTED AND DESCRIPTION OF SAME.

	Condition.	Rat evidence.
Steamer President from Seattle:		
50 bundles rags.....	O. K.....	None.
130 cases milk and household goods.....	O. K.....	None.
700 sacks flour, corn, and fertilizer.....	O. K.....	None.

Rats trapped on wharves and water front....	15
Rats trapped on vessels.....	20
Traps set on wharves and water front.....	149
Traps set on vessels.....	54
Vessels trapped on.....	9
Poisons placed on water front (pieces).....	3,600
Poisons placed within Panama-Pacific International Exposition grounds (pieces).....	3,600
Bait used on water front and vessels. Bacon (pounds).....	6
Amount of bread used in poisoning water front (loaves).....	12
Pounds of poison used on water front.....	6

RATS COLLECTED AND EXAMINED FOR PLAGUE.	
Collected.....	243
Examined.....	197
Found infected.....	0

RATS IDENTIFIED.	
Mus norvegicus.....	76
Mus rattus.....	57
Mus alexandrinus.....	75
Mus musculus.....	35

*Squirrels collected and examined for plague.*

Contra Costa County.....	106
San Benito County.....	21
Total.....	130
Found infected.....	2

*Ranches inspected and hunted over.*

Contra Costa County.....	18
San Benito County.....	6
Total.....	24

*Plague-infected squirrels found.*

Contra Costa County:	
March 3, 1915. Burgess ranch, 1 mile east of Walnut Creek.....	1 squirrel.
March 4, 1915. Walker ranch, 1½ miles east of Walnut Creek.....	1 squirrel.

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Merced, San Joaquin, Santa Cruz, Stanislaus, San Benito, Santa Clara, and San Mateo.

Week Ended Mar. 20, 1915.

RAT PROOFING.

New buildings:	
Inspections of work under construction..	235
Basements concreted (35,674 square feet)	41
Floors concreted (16,371 square feet)....	20
Yards, passageways, etc. (15,279 square feet).....	57
Total area of concrete laid (square feet)..	67,324
Class A, B, and C (fire-proof) buildings:	
Inspections made.....	205
Roof and basement ventilators, etc., screened.....	3,075
Wire screening used (square feet).....	18,170
Openings around pipes, etc., closed with cement.....	10,665
Sidewalk lens lights replaced.....	13,672
Old buildings:	
Inspections made.....	595
Wooden floors removed.....	46
Yards and passageways, planking removed.....	24
Cubic feet new foundation walls installed.....	7,515

RAT PROOFING—continued.

Old buildings—Continued.	
Concrete floors installed (38,130 square feet).....	40
Basements concreted (24,685 square feet)	29
Yards and passageways, etc., concreted (16,945 square feet).....	70
Total area concrete laid (square feet)...	79,760
Floors rat proofed with wire cloth (5,450 square feet).....	10
Buildings razed.....	11
New garbage cans stamped approved...	400
Nuisances abated.....	270

OPERATIONS ON THE WATERFRONT.

Vessels inspected for rat guards.....	28
Reinspections made on vessels.....	26
New rat guards procured.....	6
Defective rat guards repaired.....	4
Vessels on which cargo was inspected.....	1



## AMOUNT OF CARGO AND DESCRIPTION OF SAME.

	Condition.	Rat evidence.
Steamer Admiral Schley from Seattle:		
80 cases milk and household goods.....	O. K.....	None.
400 sacks flour, potatoes, and bran.....	O. K.....	None.

Rats trapped on wharves and water front....	16	RATS COLLECTED AND EXAMINED FOR PLAGUE.	
Rats trapped on vessels.....	16	Collected.....	243
Traps set on wharves and water front.....	162	Examined.....	194
Traps set on vessels.....	39	Found infected.....	0
Vessels trapped on.....	10	RATS IDENTIFIED.	
Poisons placed on water front (pieces).....	3,600	Mus norvegicus.....	102
Poisons placed within Panama-Pacific International Exposition grounds (pieces).....	7,200	Mus rattus.....	56
Bait used on water front and vessels. Bacon (pounds).....	6	Mus alexandrinus.....	52
Amount of bread used in poisoning water front (loaves).....	12	Mus musculus.....	33
Pounds of poison used on water front.....	6		

*Squirrels collected and examined for plague.*

Contra Costa County.....	123
San Benito County.....	21
Total.....	144
Found infected.....	

*Ranches inspected and hunted over.*

Contra Costa County.....	22
San Benito County.....	6
Total.....	28

*Record of plague infection.*

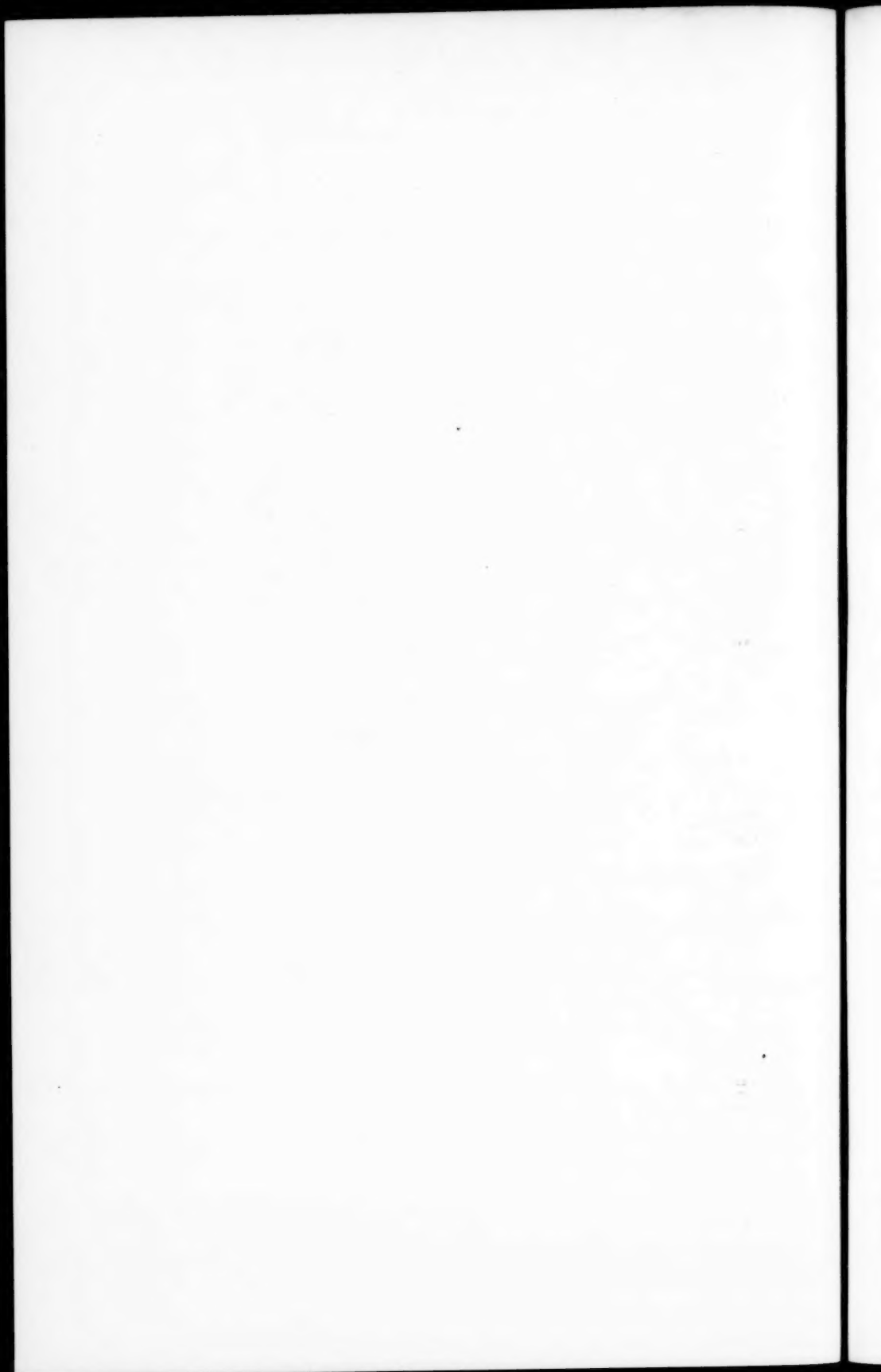
Places in California.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number rodents found infected since May, 1907.
<b>Cities:</b>				
San Francisco.....	Jan. 30, 1908	Oct. 23, 1908	(1)	398 rats.
Oakland.....	Aug. 9, 1911	Dec. 1, 1908	(1)	126 rats.
Berkeley.....	Aug. 28, 1907	(1)	(1)	None.
Los Angeles.....	Aug. 11, 1908	(1)	Aug. 21, 1908	1 squirrel.
<b>Counties:</b>				
Alameda (exclusive of Oakland and Berkeley).....	Sept. 24, 1909	Oct. 17, 1909 <sup>1</sup>	Aug. 7, 1914	286 squirrels, 1 wood rat.
Contra Costa.....	May 17, 1914	(1)	Mar. 4, 1915	1,567 squirrels.
Fresno.....	(1)	(1)	Oct. 27, 1911	1 squirrel.
Merced.....	(1)	(1)	July 12, 1911	5 squirrels.
Monterey.....	(1)	(1)	Apr. 10, 1914	6 squirrels.
San Benito.....	June 4, 1913	(1)	Sept. 26, 1914	36 squirrels.
San Joaquin.....	Sept. 18, 1911	(1)	Aug. 26, 1911	18 squirrels.
San Luis Obispo.....	(1)	(1)	Jan. 29, 1910	1 squirrel.
Santa Clara.....	Aug. 31, 1910	(1)	July 23, 1913	25 squirrels.
Santa Cruz.....	(1)	(1)	May 17, 1910	3 squirrels.
Stanislaus.....	(1)	(1)	June 2, 1911	13 squirrels.

<sup>1</sup> None.<sup>2</sup> Wood rat.

Operations are being carried on under Federal supervision on the Tormey estate, labor and material being furnished by the owners, as follows:

Number of acres covered.....	1,058
Number of holes treated.....	13,535

The work is being carried on in the following-named counties: Alameda, Contra Costa, San Francisco, Merced, San Joaquin, Santa Cruz, Stanislaus, San Benito, Santa Clara, and San Mateo.



## PREVALENCE OF DISEASE.

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.*

### IN CERTAIN STATES AND CITIES.

#### CEREBROSPINAL MENINGITIS.

City Reports for Week Ended Mar. 20, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Boston, Mass.....	1	.....	Milwaukee, Wis.....	1	1
Cincinnati, Ohio.....	1	1	Philadelphia, Pa.....	1	.....
Detroit, Mich.....	.....	1	Providence, R. I.....	.....	1
Kansas City, Kans.....	1	.....	St. Louis, Mo.....	1	2
Lowell, Mass.....	.....	1	San Francisco, Cal.....	1	.....

#### DIPHTHERIA.

California—San Francisco.

Passed Asst. Surg. Hurley reported by telegraph that during the week ended April 3, 1915, 35 new cases of diphtheria, with 4 deaths, were notified in San Francisco, Cal. The report stated that 185 cases, with 11 deaths, were reported during the month of March.

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1099.

#### ERYSIPELAS.

City Reports for Week Ended Mar. 20, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Baltimore, Md.....	.....	1	Milwaukee, Wis.....	4	.....
Boston, Mass.....	.....	3	Montclair, N. J.....	.....	1
Bridgeport, Conn.....	1	1	New Bedford, Mass.....	.....	1
Buffalo, N. Y.....	7	1	New Orleans, La.....	.....	1
Chicago, Ill.....	35	4	New York, N. Y.....	.....	13
Cincinnati, Ohio.....	9	1	Passaic, N. J.....	1	.....
Cleveland, Ohio.....	4	1	Philadelphia, Pa.....	4	17
Detroit, Mich.....	6	1	Pittsburgh, Pa.....	6	.....
Duluth, Minn.....	1	.....	Portland, Ore.....	2	.....
East Orange, N. J.....	1	.....	Reading, Pa.....	2	.....
Elgin, Ill.....	1	.....	Rochester, N. Y.....	3	.....
Erle, Pa.....	1	.....	St. Louis, Mo.....	9	.....
Johnstown, Pa.....	2	.....	San Francisco, Cal.....	2	1
Kalamazoo, Mich.....	2	.....	South Bethlehem, Pa.....	1	.....
Lancaster, Pa.....	11	.....	Troy, N. Y.....	1	.....
Los Angeles, Cal.....	4	.....	Yonkers, N. Y.....	1	.....

<sup>1</sup> From out of town.

**MEASLES.**

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1099.

**PELLAGRA.****California—San Diego.**

Surgeon Carrington reported that during the week ended March 27, 1915, one case of pellagra was notified in San Diego, Cal.

**City Reports for Week Ended Mar. 20, 1915.**

During the week ended March 20, 1915, pellagra was notified by cities as follows: Charleston, S. C., 4 deaths; Dallas, Tex., 1 case; Lynchburg, Va., 2 deaths; New Orleans, La., 1 case; Shreveport, La., 1 case with 1 death; Wilmington, N. C., 1 case.

**PNEUMONIA.****City Reports for Week Ended Mar. 20, 1915.**

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Ann Arbor, Mich.	1		New Castle, Pa.	2	
Binghamton, N. Y.	6	3	Newport, Ky.	3	3
Canton, Ohio.	2	5	Newport News, Va.	1	1
Chicago, Ill.	258	122	Norfolk, Va.	3	3
Cleveland, Ohio.	46	18	Oakland, Cal.	3	
Detroit, Mich.	2	10	Ogden, Utah.	1	1
Dubuque, Iowa.	3	3	Pasadena, Cal.	1	1
Duluth, Minn.	3	3	Philadelphia, Pa.	83	67
Eric, Pa.	5		Pittsburgh, Pa.	36	20
Grand Rapids, Mich.	4	6	Reading, Pa.	4	1
Harrisburg, Pa.	1	4	Rochester, N. Y.	12	7
Jackson, Mich.	4		Sacramento, Cal.	1	
Kalamazoo, Mich.	6	1	San Francisco, Cal.	9	4
Kansas City, Kans.	1		Schenectady, N. Y.	5	4
Kansas City, Mo.	10	15	South Bethlehem, Pa.	2	
Lancaster, Pa.	5		South Omaha, Nebr.	1	
Lima, Ohio.	2		Spokane, Wash.	2	2
Lorain, Ohio.	1		Steeleton, Pa.	2	
Los Angeles, Cal.	17	10	York, Pa.	1	
Manchester, N. H.	5	5	Zanesville, Ohio.	1	
Muncie, Ind.	1	1			

**RABIES.****City Reports for Week Ended Mar. 20, 1915.**

During the week ended March 20, 1915, rabies was notified by cities as follows: Bridgeport, Conn., 1 case; Dayton, Ohio, 2 deaths.

**California—Rabies in Animals.**

In a special report on the subject of the prevalence of rabies in California transmitted to the California State Board of Health March 9, 1915, by Dr. W. A. Sawyer, Director of the California State Hygienic Laboratory, Dr. Sawyer states that the epidemic of rabies which became important in the summer of 1909 in southern California has spread to all parts of the State excepting in Humboldt and adjacent counties in the northeastern corner. The entire State has become involved excepting the more inaccessible regions.

A study shows that wild animals have played a minor part in the spread of the disease and that the domestic dog has been almost entirely responsible. Of 1,170 heads of animals examined in the State laboratory, rabies was found in 859 instances. A number of heads examined were those of coyotes, but of these only one was found infected.

#### **ROCKY MOUNTAIN SPOTTED FEVER.**

##### **Montana—Bitter Root Valley.**

Surgeon Fricks reported that during the week ended March 28, 1915, 1 case of Rocky Mountain spotted fever was notified at Lo Lo, Mont., this being the first case reported in the Bitter Root Valley this season.

#### **SCARLET FEVER.**

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1099.

#### **SMALLPOX.**

##### **Minnesota.**

Collaborating Epidemiologist Bracken reported by telegraph that during the week ended April 3, 1915, new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Faribault County, Elmore Township, 1, Frost, 1; Lincoln County, Lake Benton, 1; St. Louis County, Bassett Township, 9; Stearns County, Raymond Township, 1; Todd County, Long Prairie Township, 1.

##### **South Carolina—Charleston.**

Surgeon Pettus reported that during the week ended March 27, 1915, 20 new cases of smallpox were notified in the Charleston Orphan Asylum, Charleston, S. C., and that two cases had been previously reported from that institution.

##### **Texas—Brownsville.**

Acting Asst. Surg. Fairbanks reported that during the month of March, 1915, 19 new cases of smallpox, with 2 deaths, were notified in Brownsville, Tex. The report also stated that several cases of the disease had occurred in the vicinity of Brownsville.

##### **Texas—Laredo.**

Acting Asst. Surg. Hamilton reported that during the week ended March 20, 1915, 25 new cases of smallpox, with 3 deaths, were notified in Laredo, Tex., and vicinity, making a total of 149 cases reported since January 16, 1915.



## SMALLPOX—Continued.

## City Reports for Week Ended Mar. 20, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Butte, Mont.	1	.....	Lincoln, Nebr.	2	.....
Charleston, S. C.	9	.....	Los Angeles, Cal.	1	.....
Cincinnati, Ohio.	2	.....	Madison, Wis.	1	.....
Chattanooga, Tenn.	1	.....	Milwaukee, Wis.	5	.....
Cleveland, Ohio.	2	.....	Mobile, Ala.	1	.....
Coffeyville, Kans.	1	.....	Moline, Ill.	6	.....
Dallas, Tex.	6	.....	Muncie, Ind.	11	.....
Danville, Ill.	5	.....	Portland, Me.	16	.....
Davenport, Iowa.	44	.....	Racine, Wis.	2	.....
Dayton, Ohio.	17	.....	Rock Island, Ill.	2	.....
Detroit, Mich.	3	.....	Sacramento, Cal.	2	.....
Duluth, Minn.	1	.....	St. Louis, Mo.	15	.....
Evansville, Ind.	7	.....	Salt Lake City, Utah.	2	.....
Grand Rapids, Mich.	1	.....	Sioux City, Iowa.	1	.....
Kansas City, Kans.	3	.....	Springfield, Ill.	6	.....
La Crosse, Wis.	1	.....	Troy, N. Y.	2	.....
Little Rock, Ark.	1	.....			

## TETANUS.

## City Reports for Week Ended Mar. 20, 1915.

During the week ended March 20, 1915, tetanus was notified by cities as follows: Honolulu, 2 cases with 2 deaths; St. Louis, Mo., 1 case; Springfield, Ill., 1 death.

## TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1099.

## TYPHOID FEVER.

## City Reports for Week Ended Mar. 20, 1915.

Places.	Cases.	Deaths.	Places.	Cases.	Deaths.
Akron, Ohio.	2	1	Newark, N. J.	1	.....
Ann Arbor, Mich.	1	.....	New Bedford, Mass.	1	.....
Baltimore, Md.	3	1	New Britain, Conn.	2	.....
Beaver Falls, Pa.	2	.....	New London, Conn.	.....	1
Berkeley, Cal.	1	.....	New Orleans, La.	3	2
Binghamton, N. Y.	1	.....	New York, N. Y.	9	3
Boston, Mass.	4	2	Oakland, Cal.	4	1
Buffalo, N. Y.	4	.....	Ogden, Utah.	1	.....
Camden, N. J.	1	.....	Philadelphia, Pa.	2	13
Canton, Ohio.	1	.....	Pittsburgh, Pa.	2	.....
Charleston, S. C.	1	.....	Plainfield, N. J.	1	.....
Chicago, Ill.	25	4	Providence, R. I.	1	.....
Cincinnati, Ohio.	.....	2	Reading, Pa.	1	.....
Cleveland, Ohio.	6	1	Rochester, N. Y.	2	.....
Columbus, Ohio.	2	.....	Rockford, Ill.	3	1
Dallas, Tex.	1	.....	Rutland, Vt.	1	.....
Danville, Ill.	.....	1	Sacramento, Cal.	3	.....
Dayton, Ohio.	1	.....	Saginaw, Mich.	6	.....
Detroit, Mich.	5	.....	Salt Lake City, Utah.	4	.....
Dubuque, Iowa.	2	1	St. Louis, Mo.	4	.....
Erie, Pa.	1	.....	San Francisco, Cal.	8	1
Evansville, Ind.	1	.....	San Juan, P. R.	2	.....
Galveston, Tex.	1	2	Schenectady, N. Y.	2	.....
Grand Rapids, Mich.	7	.....	South Bend, Ind.	.....	1
Key West, Fla.	1	.....	Tampa, Fla.	5	.....
Lancaster, Pa.	3	.....	Toledo, Ohio.	5	.....
Los Angeles, Cal.	2	.....	Troy, N. Y.	2	1
Lowell, Mass.	1	1	Washington, D. C.	1	1
Lynn, Mass.	2	.....	Wheeling, W. Va.	1	.....
Manchester, N. H.	2	.....	Wilkes-Barre, Pa.	2	.....
Medford, Mass.	1	.....	Wilkesburg, Pa.	.....	1
Milwaukee, Wis.	6	1	York, Pa.	2	.....
Mobile, Ala.	.....	1	Zanesville, Ohio.	1	.....
Nashville, Tenn.	2	.....			

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended Mar. 20, 1915.

Cities.	Population as of July 1, 1914. (Estimated by United States Census Bureau.)	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Over 500,000 inhabitants:											
Baltimore, Md.	579,590	208	18	2	9		28	1	24	28	
Boston, Mass.	733,802	269	61	3	129		71	2	59	30	
Chicago, Ill.	2,393,325	753	115	10	370	2	82	1	195	85	
Cleveland, Ohio.	639,431	160	32	4	56	1	22	1	33	15	
Detroit, Mich.	537,550	194	28	4	9	2	48	1	61	13	
New York, N. Y.	5,333,557	1,743	343	41	1,192	7	381	13	420	189	
Philadelphia, Pa.	1,657,810	589	6	7	5	460	1	29	73	107	
Pittsburgh, Pa.	564,878	205	16	2	141		19	1	37	20	
St. Louis, Mo.	734,667	220	65	2	175	1	14		52	24	
From 300,000 to 500,000 inhabitants:											
Buffalo, N. Y.	454,112	144	27	4	3		11	1	34	20	
Cincinnati, Ohio.	402,175	147	12		5	1	10		29	24	
Los Angeles, Cal.	438,914	166	5		353		23		52	32	
Milwaukee, Wis.	417,054		9	2	4		20	1	19	6	
Newark, N. J.	389,105	114	42		6		20		30	17	
New Orleans, La.	361,221	166	15	2	13		2		34	25	
San Francisco, Cal.	448,502	175	41	2	67		15		22	19	
Washington, D. C.	353,378	145	1		40		24		20	16	
From 200,000 to 300,000 inhabitants:											
Columbus, Ohio.	204,567	71	2	1	13		2	1	11	7	
Jersey City, N. J.	293,921		13		6		10		23		
Kansas City, Mo.	281,911	110	11		3		1		3	7	
Portland, Ore.	260,601	41	8	2	3	1	8		5	4	
Providence, R. I.	245,000	98	13	1	4	1	18		6	12	
Rochester, N. Y.	241,518	90	7	2	13		7		20	9	
From 100,000 to 200,000 inhabitants:											
Bridgeport, Conn.	115,289	38	1	1	1		2		3	3	
Cambridge, Mass.	110,357	34	15	2	29		6	1	9	10	
Camden, N. J.	102,465		1		39		1		6		
Dayton, Ohio.	123,794	38	5		16		9		4	2	
Fall River, Mass.	125,443	52	6	2	11	1	8	1	7	4	
Grand Rapids, Mich.	123,227	39	2		5		8		8	1	
Hartford, Conn.	107,038	46	8	1			5		2	2	
Lowell, Mass.	111,004	41	2		19		4		2	1	
Nashville, Tenn.	114,899	59			2		3		4	8	
New Bedford, Mass.	111,230	37	2	1	20		5	2	12	3	
Oakland, Cal.	183,002		6	2	32		1		7	3	
Reading, Pa.	103,361	39	2	2	2		8		7	3	
Richmond, Va.	134,917	57	2				11		6	5	
Salt Lake City, Utah.	109,530	26	7	1							
Spokane, Wash.	135,657				2						
Springfield, Mass.	100,375	22	5		5		4		2	1	
Toledo, Ohio.	184,126	58	6		7		5	1	10	7	
Trenton, N. J.	106,831	42	3		1		4		3	5	
Worcester, Mass.	157,732	40	5	1			5		4	4	
From 50,000 to 100,000 inhabitants:											
Akron, Ohio.	80,291		3				3			1	
Altoona, Pa.	56,553	14	1				2		1	2	
Atlantic City, N. J.	53,952	7	1		20		1				
Bayonne, N. J.	65,271		2		1		1				
Berkeley, Cal.	52,105	6		1	1	24				1	
Binghamton, N. Y.	52,191	22	5						1	1	
Brockton, Mass.	64,043	16	2		2		1		3	1	
Canton, Ohio.	57,426	16			1		7		4		
Charleston, S. C.	60,121	32	1							2	
Chattanooga, Tenn.	57,077		2	1							
Duluth, Minn.	89,331		1						3	2	
Erie, Pa.	72,401	23	1				2		1		
Evansville, Ind.	71,284	20	1		92		3		1	3	
Harrisburg, Pa.	69,493	17			2		1		3	2	
Johnstown, Pa.	64,642	27	5	1			1		3	1	
Kansas City, Kans.	94,271		5	1	1		6		3	2	
Little Rock, Ark.	53,811	29	1		11						
Lynn, Mass.	98,207	31	5	1							
Manchester, N. H.	75,635	37	1				3		5		
Mobile, Ala.	55,573	24					3		2	2	
New Britain, Conn.	50,612		7				1		1	1	

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ending Mar. 20, 1915—Continued.

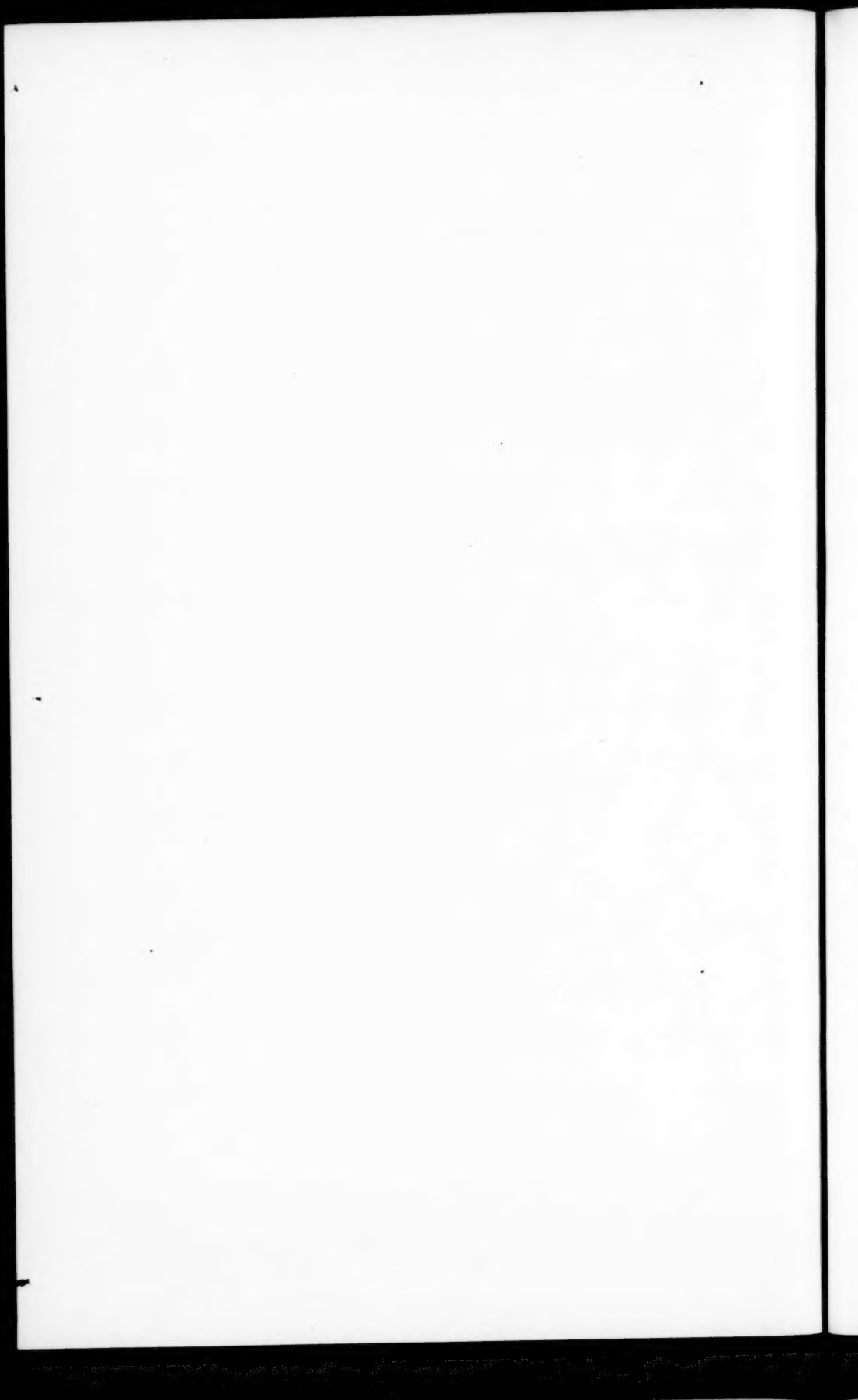
Cities.	Population as of July 1, 1914. (Esti- mated by United States Census Bureau.)	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tubercu- losis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabit- ants—Continued.										
Norfolk, Va.	85,540				46	1			5	5
Passaic, N. J.	66,276	17	1	1			13		3	
Pawtucket, R. I.	56,901	25					2			5
Rockford, Ill.	52,337	5	2	1			1			1
Sacramento, Cal.	62,717	9			4				5	1
Saginaw, Mich.	53,988	14	2						6	
Schenectady, N. Y.	90,503	27	2		23		2		9	3
Somerville, Mass.	83,881	17	5	1	51		8	1	3	2
South Bend, Ind.	65,114	26			1					4
Springfield, Ill.	57,972	23	3		94		2			3
Wilkes-Barre, Pa.	73,660	31	4	1	7		2		5	3
Yonkers, N. Y.	93,383	21	6	2	2				7	1
From 25,000 to 50,000 inhabit- ants:										
Alameda, Cal.	26,330	6	1		10		1			
Aurora, Ill.	33,022	6	2							
Brookline, Mass.	31,138	12	1		4		6		3	1
Butler, Pa.	25,543						3			1
Butte, Mont.	41,781	16	2						3	3
Chelsea, Mass.	32,452	11	3		2		7		1	1
Chicopee, Mass.	28,057	6	1				1		2	2
Danville, Ill.	30,847	6								
Davenport, Iowa.	46,340		2	1	1					
East Orange, N. J.	39,852	5	2		2		4		2	
Elgin, Ill.	27,485	5	1				1			
Everett, Mass.	37,381	12	2		24		5			1
Everett, Wash.	32,048	4							2	
Fitchburg, Mass.	40,507	12	1	1			2		3	
Galveston, Tex.	40,209	11	1				3			
Hamilton, Ohio.	38,814	7					1		3	1
Haverhill, Mass.	47,071	9	1		22		12		1	
Kalamazoo, Mich.	45,842	18			2		1		5	4
La Crosse, Wis.	31,367								3	
Lancaster, Pa.	49,685				2				3	
Lexington, Ky.	38,819	23			11		2			3
Lynchburg, Va.	31,830	14							1	5
Malden, Mass.	48,979	10	7	1			3		4	3
Medford, Mass.	25,240	3			92		2		1	
Moline, Ill.	26,402	6			6					
Newcastle, Pa.	39,569		2				2		1	
Newport, Ky.	31,517	18	2				2		1	1
Newport, R. I.	29,154	7								
Newton, Mass.	42,455	12	1		3		4		1	1
Niagara Falls, N. Y.	35,127	16								
Norristown, Pa.	30,265	9			4					
Orange, N. J.	31,968	9	2						1	1
Pasadena, Cal.	40,880	7			33		23		1	2
Perth Amboy, N. J.	38,265	4	2	1	19				1	
Pittsfield, Mass.	36,531	15							2	1
Racine, Wis.	44,528	16				72				1
Roanoke, Va.	40,574	12	1				2		2	
Rock Island, Ill.	29,945	6			25	1	2			
San Diego, Cal.	48,900	7	2				2		7	7
South Omaha, Nebr.	26,368	4								
Superior, Wis.	44,344	7	3	1			5			2
Tampa, Fla.	49,156		2	1	6	1			4	3
Taunton, Mass.	35,631								4	2
Waltham, Mass.	29,688	5	8				3		1	
West Hoboken, N. J.	40,647	3	1							1
Wheeling, W. Va.	42,817	15	1	2	1		5		1	2
York, Pa.	49,430								3	
Zanesville, Ohio.	29,949		1		1					
Less than 25,000 inhabitants:										
Ann Arbor, Mich.	14,948	11	3			3			6	
Beaver Falls, Pa.	13,100		3							
Cairo, Ill.	15,392						1			
Clinton, Mass.	13,075	3			2					
Concord, N. H.	22,291	16								1
Cumberland, Md.	23,846	4	1		1				4	
Florence, S. C.		5								1

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ending Mar. 20, 1915—Continued.

Cities.	Population as of July 1, 1914. (Es- timated by United States Census Bureau.)	Total deaths from all causes.	Diph- theria.		Measles.		Scarlet fever.		Tubercu- losis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Less than 25,000 inhabitants— Continued.											
Galesburg, Ill.	23,570	1									
Harrison, N. J.	16,160		1								
Kearny, N. J.	21,967	5	4	1	1		1		1	1	
Ketchikan, Alaska.		1									
Key West, Fla.	21,150	9					3			2	
Marinette, Wis.	14,610	5	1				6				
Melrose, Mass.	16,887	7									
Montclair, N. J.	24,782	6							1		
Morristown, N. J.	13,033	15					1		1		
Muncie, Ind.	24,969	1									
Muscatine, Iowa.	17,674	4									
Nanticoke, Pa.	21,756	8	1		9						
Newburyport, Mass.	16,147	2					1		12		
New London, Conn.	20,557	11			2				1	1	
Newport News, Va.	20,246	10			1						
North Adams, Mass.	22,019	3							12	1	
Northampton, Mass.	19,766	7							8		
Pascagoula, Miss.		2									
Phoenix, Ariz.	16,870	5	2				1			2	
Plainfield, N. J.	22,755	5			4		1		1	1	
Rockland, Me.	8,182	1			1		1				
Rutland, Vt.	14,417	4					1				
Saratoga Springs, N. Y.	12,813	6				6					
South Bethlehem, Pa.	22,840	1	1		1					1	
Steelton, Pa.	15,126	1							12		
Vineyard Haven, Mass.		1									
Wilkesburg, Pa.	21,701	4					1		1		
Woburn, Mass.	15,755	5									

Three nonresidents.





## FOREIGN REPORTS.

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### AUSTRALIA.

#### Smallpox—New South Wales.

During the period from February 12 to 18, 1915, 13 cases of smallpox were notified in New South Wales. Of these, 4 occurred within the metropolitan area of Sydney and 9 in two country districts.

### CHINA.

#### Plague-Infected Rat—Shanghai.

During the week ended February 20, 1915, 143 rats were examined at Shanghai. One plague-infected rat was found.

### EGYPT.

#### Typhus Fever—Alexandria.

During the week ended February 25, 1915, 39 cases of typhus fever were notified at Alexandria.

### GREAT BRITAIN.

#### Typhus Fever—Glasgow.

During the week ended March 18, 1915, 2 cases of typhus fever were notified at Glasgow.

### GREECE.

#### Typhus Fever—Saloniki.

During the week ended February 27, 1915, 3 deaths from typhus fever were notified at Saloniki.

### ITALY.

#### Cerebrospinal Meningitis—Leghorn.

Cerebrospinal meningitis was reported present March 2, 1915, among sailors and pupils at the Royal Naval Academy, Leghorn.

#### Typhus Fever—Florence.

During the month of January, 1915, 4 cases of typhus fever were notified at Florence.

**JAPAN.****Communicable Diseases.**

Communicable diseases were notified in the Empire of Japan, exclusive of Taiwan, during the month of January, 1915, as follows:

Diseases.	Cases.	Deaths.	Diseases.	Cases.	Deaths.
Diphtheria.....	2,342	663	Smallpox.....	15	1
Dysentery.....	87	35	Typhoid fever.....	1,687	334
Paratyphoid fever.....	179	16	Typhus fever.....	28	2
Scarlet fever.....	86	6			

<sup>1</sup> Hokkai-do, 1 case; Nagasaki-ken, 4 cases with 1 death.

<sup>2</sup> Aomori-ken, 2 cases with 2 deaths; Miyagi-ken, 6 cases.

**MEXICO.****Smallpox—State of Vera Cruz.**

Virulent smallpox was reported, April 2, 1915, to be spreading in the State of Vera Cruz.

**RUSSIA.****Typhus Fever—Petrograd.**

During the week ended February 13, 1915, 6 cases of typhus fever were notified at Petrograd.

**TURKEY.****Plague—Bagdad.**

Reports received from Bagdad for the period February 13 to March 2, 1915, show the occurrence of 40 cases of plague. Of these cases one was of the pneumonic form. Local conditions are reported to be insanitary.

**Quarantine Measures Against Plague.**

February 17, 1915, vessels from Bahrein, Persian Gulf, were made subject, on arrival at a Turkish port, to medical inspection and destruction of rats and mice on board. On the same date travelers going from Bagdad to Persia were made subject at Haneguine to disinfection in addition to the medical inspection previously in force.

**Typhus Fever—Jaffa.**

During the week ended February 6, 1915, typhus fever was reported present at Jaffa.

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.****Reports Received During Week Ended Apr. 9, 1915.<sup>1</sup>****CHOLERA.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Austria-Hungary:</b>				
Austria.....	Jan. 31-Feb. 13.....	14	.....	
Bosnia-Herzegovina.....	Jan. 24-Feb. 6.....	48	28	
Hungary.....	Jan. 18-Feb. 7.....	92	32	

**YELLOW FEVER.**

<b>Brazil:</b>				
Bahia.....	Jan. 24-30.....	1	.....	

**PLAGUE.**

<b>Brazil:</b>				
Bahia.....	Jan. 10-30.....	5	4	
<b>Cuba:</b>				
Habana.....	Apr. 3-5.....	1	1	
<b>Japan:</b>				
Kagi.....	Feb. 14-20.....	3	4	
<b>Siam:</b>				
Bangkok.....	Dec. 26-Jan. 23.....	.....	5	

**SMALLPOX.**

<b>Brazil:</b>				
Rio de Janeiro.....	Feb. 7-20.....	20	14	
<b>Canada:</b>				
British Columbia—				
Vancouver.....	Mar. 14-20.....	1	.....	
Ontario—				
Toronto.....	do.....	4	.....	
<b>China:</b>				
Hankow.....	Feb. 7-13.....	1	.....	
Nanking.....	Feb. 20.....	.....	.....	Present.
Newchwang.....	Feb. 7-20.....	.....	.....	Do.
Shanghai.....	Feb. 7-13.....	2	5	Deaths among natives.
<b>Cuba:</b>				
Habana.....	Mar. 21.....	.....	1	Case previously reported on S. S. Morro Castilla.
<b>Egypt:</b>				
Alexandria.....	Feb. 19-25.....	4	3	
<b>Germany:</b>				
Strassburg.....	Jan. 1-31.....	4	1	
<b>Great Britain:</b>				
London.....	Mar. 7-13.....	3	.....	
<b>Greece:</b>				
Kavala.....	Feb. 21-27.....	1	.....	
Kilkish.....	do.....	1	.....	
Patras.....	Feb. 15-21.....	.....	1	
Saloniki.....	Feb. 14-20.....	3	1	
<b>Japan:</b>				
Taiwan.....	do.....	5	.....	
<b>Mexico:</b>				
Nuevo Laredo.....	do.....	.....	1	
<b>Netherlands:</b>				
Rotterdam.....	Feb. 28-Mar. 6.....	1	.....	
<b>Peru:</b>				
Arequipa.....	Feb. 28.....	.....	.....	Epidemic.
<b>Portugal:</b>				
Lisbon.....	Feb. 28-Mar. 6.....	1	.....	
<b>Russia:</b>				
Petrograd.....	Feb. 7-13.....	50	20	
<b>Spain:</b>				
Valencia.....	Feb. 28-Mar. 6.....	77	4	
<b>Turkey in Asia:</b>				
Beirut.....	Feb. 14-20.....	6	2	
Jaffa.....	Jan. 24-30.....	1	.....	
Jerusalem.....	Nov. 1-30.....	2	.....	

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 26, 1914, to Apr. 2, 1915.****CHOLERA.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Austria-Hungary:</b>				
Austria.....				Total Sept. 15-Dec. 5: Cases, 3,467; deaths, 937. Total Jan. 4-30: 124 cases.
Do.....				Total Nov. 18-Dec. 22: Cases, 741; deaths, 133.
Bohemia.....				Total Sept. 23-Dec. 5: Cases, 176; deaths, 56.
Coast land— Trieste.....	Nov. 15-21.....	5		
Galicia.....				Total Sept. 23-Dec. 5: Cases, 2,047; deaths, 793.
Kracow.....	Oct. 4-Dec. 5.....	109	4	
Lisko.....	Sept. 23-Nov. 7.....	355	186	
Przemyśl.....	Nov. 1-11.....	132	3	
Lower Austria.....				Total Sept. 1-Dec. 5: Cases, 473; deaths, 67.
Vienna.....	Sept. 1-Jan. 30.....	390	42	
Moravia.....				Total Sept. 15-Dec. 5: Cases, 362; deaths, 93.
Brunn.....	Sept. 15-Nov. 21.....	18	3	
Silesia.....				Total Sept. 23-Dec. 5: Cases, 288; deaths, 39.
Styria.....				Sept. 23-28; Cases, 55; deaths, 18.
Gratz.....	Oct. 3-Nov. 14.....	10		
Upper Austria.....	Oct. 4-Nov. 7.....	3		
Bosnia-Herzegovina.....	Jan. 4-23.....	51	32	Total Oct. 4-10: Case, 1.
Croatia-Slavonia.....	Dec. 31-Jan. 31.....	427	160	Total Oct. 4-10: Case, 1; death, 1.
Hungary.....	Dec. 31-Jan. 17.....	406	125	Total Sept. 15-Nov. 30: Cases, 3,024; deaths not yet reported.
Do.....				Total Nov. 18-Dec. 22: Cases, 452; deaths not reported.
Budapest.....	Dec. 25-Feb. 13.....	22	4	
Fiume.....	Jan. 25-Feb. 7.....	3	1	
<b>Ceylon:</b>				
Colombo.....	Sept. 5.....	1	1	
<b>China:</b>				
Nanking.....	Nov. 15-21.....			Present.
Wuchow.....	Nov. 27.....			Do.
<b>Dutch East Indies:</b>				
Banca— Muntok.....	Dec. 6-12.....	11	7	
Celebes— Menado.....	Oct. 18-Dec. 5.....	425	409	
Java— Batavia.....	Oct. 25-Dec. 26.....	361	343	
Sumatra— Lampung.....	Nov. 8-14.....	27	7	
Mengals.....	Oct. 18-Nov. 7.....	65	69	
Palembang.....	Oct. 18-Dec. 19.....	175	147	
Pencoulen district.....	Oct. 25-31.....	88	32	
Telok Betong.....	Nov. 14-Dec. 12.....	47	44	
<b>Germany:</b>				
Do.....	Feb. 21-27.....	12	1	Total Nov. 8-Jan. 16: Cases, 54.
Brandenburg.....	Dec. 6-23.....	4		In two prison camps.
Torgau.....	Jan. 5-16.....	1		Vicinity of Frankfort on the Oder.
Posen.....	Dec. 20-26.....	2		At Birnbaum.
Zirka.....	Jan. 5-16.....	5		
Silesia.....	Nov. 8-Dec. 26.....	46		In 23 localities.
Rosenberg.....	Jan. 5-16.....	1		
<b>India:</b>				
Bombay.....	Nov. 1-Jan. 9.....	9	3	
Calcutta.....	Nov. 1-28.....		42	
Madras.....	Nov. 8-Feb. 13.....	168	122	Oct. 25-31: Deaths, 17. Not previously reported.
Madura district.....	Jan. 17-Feb. 13.....	275	189	
Rangoon.....	Sept. 1-Dec. 31.....	6	5	
<b>Indo-China:</b>				
Anam— Binh-Dinh.....	Oct. 1-Nov. 30.....	84	42	Jan. 1-Aug. 31: Cases, 259; deaths, 148. Aug. 1-31: Cases, 18; deaths, 15.
Cambodia— Pnuum Penh.....	Aug. 1-Oct. 31.....	2	1	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 26, 1914, to Apr. 2, 1915—Continued.****CHOLERA—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Indo-China—Continued.				
Cochin China—				
Baria.....	Aug. 1-31.....	6	6	And vicinity. Nov. 3-23: Cases, 20; deaths, 10.
Cantho.....	Oct. 1-31.....	2		
Cholon.....	Aug. 1-Nov. 30.....	70	49	Total Jan. 1-Dec. 20: Cases, 154; deaths, 79.
Saigon.....	Aug. 1-Feb. 7.....	405	247	
Laos—				
Pakse.....	Aug. 1-31.....	1	1	
Tonkin—				
Ninh-Binh.....	Oct. 1-31.....	11	2	
Japan.....				Total Jan. 1-Dec. 31: 5 cases, 4 deaths.
Kyoto fu.....	Oct. 1-31.....	1	1	
Philippine Islands:				
Manila.....	Oct. 25-Jan. 30.....	66	37	
Russia:				
Moscow.....	Nov. 8-Jan. 23.....		4	
Siam:				
Bangkok.....	Sept. 27-Nov. 28.....		8	
Straits Settlements:				
Singapore.....	Oct. 4-Jan. 30.....	5	5	

**YELLOW FEVER.**

Brazil:				
Bahia.....	Jan. 31-Feb. 6.....	1		
Rio de Janeiro.....	Dec. 13-26.....	2	1	
Ecuador:				
Guayaquil.....	Nov. 1-30.....	1		
French Guiana:				
St. Jean du Maroni.....	Sept. 23-Oct. 10.....	15	8	At the penal station.
Venezuela:				
Caracas.....	Dec. 31.....	1		

**PLAGUE.**

Bahrein (in Persian Gulf).....	Dec. 29.....			Present.
Brazil:				
Bahia.....	Nov. 16-Jan. 9.....	13	11	
Pernambuco.....	Oct. 11-Dec. 31.....		12	
Rio de Janeiro.....	Dec. 20-Jan. 5.....	2		
Ceylon:				
Colombo.....	Oct. 25-Jan. 30.....	59	55	
China:				
Canton.....				June 12-July 12: Cases, 325.
Hongkong.....	Dec. 28-Jan. 2.....	1	1	Chinese.
Shanghai.....	Dec. 6-Jan. 2.....		3	Among natives.
Cuba:				
Habana.....	Feb. 9-Mar. 25.....	4	4	
Dutch East Indies:				
Provinces.....				Total, Oct. 1-Nov. 30: Cases, 2,562; deaths, 2,278.
Kediri.....	Oct. 1-Nov. 30.....	730	678	
Madioen.....	.....do.....	123	110	
Paseroean.....	.....do.....	1,405	1,211	
Surabaya.....	.....do.....	299	279	
Do.....	Dec. 13-Jan. 30.....	95	93	
Ecuador:				
Duran.....	Nov. 1-Jan. 31.....	10	4	
Guayaquil.....	.....do.....	310	119	
Milagro.....	Dec. 1-31.....	1	1	
Sanborondon.....	Nov. 1-Dec. 31.....	4	3	
Egypt.....				Total, Jan. 1, 1914-Jan. 28, 1915: Cases, 225; deaths, 116.
Alexandria.....	Nov. 5-28.....	1	1	
Assiout.....	Jan. 28.....	5		
Port Said.....	Oct. 22-Dec. 24.....	9	7	Jan. 1-Dec. 18: Cases, 44.
Greece.....				Sept. 12, present in Drama and Kavala.
Piraeus.....	Jan. 17-27.....	1		
India:				Not previously reported.
Bassein.....	Jan. 4-Dec. 5.....	13	10	
Bombay.....	Nov. 1-Feb. 13.....	26	20	
Karachi.....	Nov. 8-Feb. 13.....	19	14	
Madras.....	Nov. 22-Dec. 12.....	6	6	
Madras Presidency.....	Jan. 17-30.....	299	211	
Do.....	Feb. 7-13.....	157	112	
Rangoon.....	Sept. 1-Dec. 31.....	125	117	



**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.**

Reports Received from Dec. 26, 1914, to Apr. 2, 1915—Continued.

**PLAGUE—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Indo-China.</b>				Jan. 1-Aug. 31: Cases, 1,780; deaths, 1,413. Aug. 1-3: Cases, 155; deaths, 121.
<b>Anam—</b>				
Phanitet	Aug. 1-31	4	1	
Phanrang	Aug. 1-Nov. 30	12	10	
Phanri	Oct. 1-Nov. 30	2	1	
<b>Cambodia—</b>				
Kompeng-Speu	Nov. 1-30	5	3	
Prum Penh	Aug. 1-Nov. 30	88	84	
Stung-Treng	Oct. 1-Nov. 30	4	3	
<b>Cochin China—</b>				
Cantho	Nov. 1-30	3		
Cholon	Aug. 1-Nov. 30	30	14	
Gladinh	Oct. 1-31	1		
Saigon	Aug. 1-31	23	15	
Do	Jan. 4-Feb. 7	29	12	And vicinity Nov. 3-30: Cases, 5.
Thudamot	Nov. 1-30	2	1	
Kouang-Techou-Wan	Aug. 1-Nov. 30	70	70	
Tonkin—				
Tong-San	Nov. 1-30	25	25	
<b>Japan.</b>				Total, Jan. 1-Dec. 31: 485 cases; 110 deaths.
<b>Chiba-ken—</b>				
Konikawa	Jan. 1-Dec. 31, 1914	6	6	
Moriyama	do	5	4	
<b>Ibaraki-ken—</b>				
Isahaya	do	1	1	
Kagi	Jan. 24-Feb. 13	10	8	
<b>Kanagawa-ken—</b>				
Hodogaya	do	8	6	Including reports previously published in P. H. R.
Kawasaki	do	1	1	
Ohno-mura	do	9	8	
Tijima-mura	do	5	4	
Yokohama	do	1	1	Do.
Taiwan (Formosa)	do	303	275	Do.
Tokyo-fu	do	47	29	Do.
Tokyo	Dec. 29-Jan. 4	1	1	
<b>Libya (Tripoli)</b>				Present in Derna and Marsa-Susa among native laborers.
<b>Mauritius</b>	Nov. 6-Jan. 14	74		
<b>Persia:</b>				
Belessavar	Oct. 30-Nov. 9	80	80	On Caspian coast.
Kasri Shireen	Dec. 12	1		
<b>Peru:</b>				
Callao	Nov. 16-Jan. 31	8	2	
Catacoas	do	35	3	
Chiclayo	do	30	15	Present.
Chocope	Nov. 16-Jan. 3			
Ferrenafe	Nov. 16-Jan. 31	6		
Guadaloupe	Jan. 4-31	1	1	
Huancayo	do	1	1	
Lambayeque	Nov. 16-Jan. 31	14	5	
Lima (city)	do	16	2	
Lima (country)	do	9	1	
Mollendo	do	20		
Pacasmayo	Nov. 16-Jan. 3	1		
Piura	Nov. 16-Jan. 31	24	7	
Salaverry	Nov. 16-Jan. 3	4		
San Pedro	Nov. 16-Jan. 31	23		
Trujillo	do	55	8	
<b>Russia:</b>				
Moscow	Dec. 6-Feb. 13	9	2	
<b>Senegal:</b>				
Dakar	Dec. 5			Do.
<b>Straits Settlements:</b>				
Singapore	Nov. 1-Jan. 30	13	11	
<b>Turkey in Asia:</b>				
Bagdad	Nov. 1-Dec. 3	11	9	
Do	Dec. 25-Jan. 5	12	8	
Do	Jan. 12-Feb. 10	81	11	
<b>Union of South Africa:</b>				
Queenstown	Feb. 5			Do.
Zanzibar	Oct. 25-31	2	3	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 26, 1914, to Apr. 2, 1915—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Aden.....	Nov. 5-Feb. 17....	23	25	Present.
Muttra.....	Feb. 7-13.....			
Argentina:				
Rosario.....	Oct. 1-31.....		1	
Australia:				
New South Wales—				
Newcastle.....	Jan. 22-28.....	2		Total Nov. 13-19: Cases, 7 in the metropolitan area and 2 in the country districts. Nov. 19, in Colmslie quarantine station, 1 case from s. s. Kano Na from Melbourne, via Sydney.
Penrith.....	Dec. 11-17.....	1		
Sydney.....	Dec. 11-Feb. 4....	14		
Queensland—				
Brisbane.....				
South Australia.	Jan. 3-16.....	1		
Austria-Hungary:				
Austria—				
Prague.....	Jan. 17-23.....	1		
Vienna.....	Oct. 31-Jan. 9....	141	15	
Do.....	Jan. 17-30.....	211	56	
Hungary—				
Budapest.....	Jan. 31-Feb. 13....	117		
Fiume.....	Dec. 6-Feb. 7....	4	2	
Brazil:				
Pernambuco.....	Oct. 1-Dec. 31....		57	
Rio de Janeiro.....	Nov. 1-Jan. 9....	735	215	
Sao Paulo.....	Nov. 9-15.....	2		
Bulgaria:				
Sofia.....	June 30-Nov. 28..	121	2	
Canada:				
British Columbia—				
Vancouver.....	Feb. 8-14.....	3		
Manitoba—				
Winnipeg.....	Jan. 24-Mar. 13....	2		
Ontario—				
Hamilton.....	Jan. 1-Feb. 23....	5		
Sarnia.....	Dec. 13-Feb. 6....	5		
Toronto.....	Dec. 6-Mar. 13....	44	1	
Windsor.....	Jan. 17-Feb. 27....	4		Jan. 13: Cases, 4 from Grand Trunk ferryboat Landsdowne.
Quebec—				
Montreal.....	Dec. 28-Mar. 20....	6		
Quebec.....	Dec. 13-Jan. 16....	3		
Canary Islands:				
Teneriffe—				
Santa Cruz.....	Dec. 6-20.....		2	
Ceylon:				
Colombo.....	Oct. 25-Jan. 30....	144	43	
China:				
Hongkong.....	Nov. 22-Feb. 6....	4	2	
Nanking.....				Present Jan. 23.
Newchwang.....				Nov. 22, present.
Shanghai.....	Nov. 9-Feb. 6....	31	68	Deaths among natives.
Tientsin.....	Dec. 6-12.....		1	
Cuba:				
Guayos.....	Jan. 12-Feb. 10....	7	1	
Habana.....	Mar. 8.....	1		Mar. 15: 1 case on steamship Morro Castle.
Dutch East Indies:				
Borneo.....	Nov. 8-14.....	50	30	Oct. 18-24: Cases, 112; deaths, 44, mainly in Pontianak.
Java.....	Jan. 8-Feb. 4.....	362	122	In the western part, including Batavia.
Batavia.....	Oct. 18-Nov. 21....	166	44	
Do.....	Jan. 8-28.....	59	17	
Surabaya.....	Nov. 1-7.....	1		
Sumatra—				
Tepanodi district.....	Dec. 5-29.....	6	2	
Egypt:				
Alexandria.....	Nov. 19-Feb. 18....	97	24	
Cairo.....	Dec. 3-Feb. 4.....	17	2	
France:				
Havre.....	Dec. 20-26.....	1		
Paris.....	Nov. 15-Dec. 26....	4	2	
Germany.				Nov. 15-Dec. 19: Cases, 14. Jan. 10-16: 11 cases.
Great Britain:				
Cardiff.....	Nov. 30-Dec. 5....	5		
Liverpool.....	Dec. 19.....	1		
London.....	Jan. 31-Mar. 6....	18	3	
Greece:				
Kavala.....	Nov. 22-Feb. 6....	8		
Patras.....	Nov. 23-Feb. 7....		17	Jan. 31: Epidemic.
Saloniki.....	Nov. 15-Feb. 13....	73	69	

**CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX—Continued.****Reports Received from Dec. 26, 1914, to Apr. 2, 1915—Continued.****SMALLPOX—Continued.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>India:</b>				
Bombay.....	Nov. 1-Feb. 13....	150	43	
Calcutta.....	Oct. 25-Nov. 28....		37	
Karachi.....	Jan. 3-Feb. 6.....	3	1	
Madras.....	Nov. 1-Feb. 13....	34	8	
Rangoon.....	Oct. 1-Dec. 31....	3	3	
<b>Indo-China:</b>				
Annam—				
Binh-Dinh.....	Oct. 1-31.....	3		
Phanrang.....	Nov. 1-30.....		1	
Cambodia—				
Phnompenh.....	Oct. 1-Nov. 30....	2	1	
Cochin China—				
Bac-Lien.....	Nov. 1-30.....	1		
<b>Laos—</b>				
Pakse.....	do.....	1		
<b>Tonkin—</b>				
Haiduong.....	do.....	4		
Haiphong.....	Oct. 1-Nov. 30....	13	1	
Hanoi.....	Nov. 1-30.....	1		
<b>Italy:</b>				
Milan.....	Dec. 1-31.....	1		
Turin.....	Dec. 21-Jan. 10....	4		
<b>Japan:</b>				Jan. 1-Dec. 31: Cases, 485; deaths, 110, exclusive of Taiwan.
Kagi.....	Jan. 31-Feb. 6.....	3	3	
Nagasaki.....	Jan. 18-31.....	3	1	
Nagasaki-ken.....	Oct. 1-Dec. 31....	60	12	
Taiwan.....	Oct. 25-Feb. 13....	16	3	
<b>Mexico:</b>				
Aguascalientes.....	Dec. 7-Mar. 7.....		19	
Chihuahua.....	Nov. 30-Feb. 15....	24	15	
Juarez.....	Dec. 4.....			Prevalent.
Mazatlan.....	Dec. 9-Feb. 23....	37	22	
Mexicali.....	Feb. 14-20.....	3		
Monterey.....	Dec. 14-Feb. 28....	43	2	Feb. 10: Epidemic.
Nuevo Laredo.....	Jan. 31-Mar. 6.....	5	2	
Salina Cruz.....	Nov. 1-7.....	1		
Tampico.....	Dec. 1-Mar. 10....		21	Prevalent among the military.
Vera Cruz.....	Dec. 1-Feb. 27....	76	75	
<b>Netherlands:</b>				
Rotterdam.....	Jan. 24-Feb. 20....	4	1	
<b>Newfoundland:</b>				
St. Johns.....	Jan. 23-29.....	1		
<b>Norway:</b>				
Christiansand.....	Nov. 1-30.....	7	2	Including report, vol. 29.
Stavanger.....	Nov. 30-Dec. 5....	1		
<b>Persia:</b>				
Teheran.....	Feb. 14-20.....			Present.
<b>Philippine Islands:</b>				
Manila.....	Dec. 20-26.....	2		From steamship Ixion.
<b>Portugal:</b>				
Lisbon.....	Nov. 22-Feb. 27....	24		
<b>Russia:</b>				
Moscow.....	Nov. 8-Feb. 13....	131	30	
Odessa.....	Oct. 25-Nov. 18....	10	1	
Do.....	Nov. 30-Jan. 2.....	68	9	
Petrograd.....	Oct. 25-Feb. 6.....	473	105	
Riga.....	Oct. 11-Dec. 12....	69		
<b>Santo Domingo:</b>				
Santo Domingo.....	Feb. 1-15.....		2	
<b>Spain:</b>				
Barcelona.....	Nov. 22-Feb. 18....		44	
Madrid.....	Nov. 1-Jan. 31....	5	5	
Seville.....	Dec. 1-Jan. 31....		4	
Valencia.....	Nov. 15-Feb. 20....	671	31	
<b>Straits Settlements:</b>				
Singapore.....	Oct. 10-Jan. 30....	17	5	
<b>Sweden:</b>				
Stockholm.....	Dec. 13-19.....		1	
<b>Switzerland:</b>				
Basel.....	Nov. 7-Feb. 27....	55		
<b>Turkey in Asia:</b>				
Beirut.....	Nov. 1-Feb. 14....	86	26	
Haifa.....	Nov. 2-Dec. 6.....	14	6	
Jaffa.....	Jan. 10-23.....	2		
Jerusalem.....	Oct. 1-31.....	3		
Tripoli.....	Dec. 27-Jan. 9.....	8		
Zanzibar.....	Nov. 14-21.....		7	

# SANITARY LEGISLATION.

## COURT DECISIONS.

### MISSISSIPPI SUPREME COURT.

#### **Tuberculin Test of Cows—Regulation of State Board of Health Held to be Valid.**

HAWKINS v. HOYE et al., 66 S. Rep., 741. Dec. 14, 1914.

The legislature, by virtue of the police power of the State, may enact all needful laws for the purpose of preserving the health, preventing the spread of disease, and protecting the lives of the citizens. It may create boards of health and bestow upon them necessary powers to protect the general health of the people.

Statutes establishing boards of health and investing such boards with the power to adopt ordinances, rules, and regulations necessary to advance the public health are not unconstitutional as being a delegation of legislative power.

The requirement that the cows used in the dairy business, where milk therefrom is sold generally to the people, should be inspected as to their health twice during the period of a year is valuable in the preservation of the public health and not an unreasonable regulation.

Such a regulation does not violate the constitution of Mississippi nor section 1 of the fourteenth amendment to the Federal Constitution.

The purpose of such a regulation is to prevent the spread of disease among human beings, and its promulgation and enforcement by the State board of health, rather than by the live stock sanitary board, was proper.

REED, J.: Appellant operated a small dairy in Lauderdale County near the city of Meridian. He owned 11 cows which were in use for milk in his dairy business. He brought this action at law for damages which he claimed to have suffered from the rejection of 6 of his cows upon an examination of them for tuberculosis and other contagious and infectious diseases. He charged in his declaration that the examination and rejection of the cows were without authority of law and wrongful. To the declaration appellees filed the plea of general issue and special pleas. Appellant demurred to the special pleas and, his demurrer being overruled, appealed to this court.

Pursuant to a rule or ordinance made and promulgated by the Mississippi State Board of Health on October 11, 1909, for the purpose of suppressing and eradicating tuberculosis and other contagious and infectious diseases, Dr. M. J. L. Hoyer, who was the duly appointed, qualified, and acting health officer of Lauderdale County, designated Dr. B. M. Leigh, a competent veterinarian, to examine all cows used by dairymen in their milk business. He gave notice on July 19, 1912, of his purpose to enforce the ordinance by publishing the following notice in the daily papers of the city of Meridian:

By virtue of an ordinance of the Mississippi State Board of Health, all cows used by dairymen selling milk are required to be examined by a competent veterinarian semiannually on or before the 31st day of July and on or before the 31st day of December. I have appointed Dr. B. M. Leigh to inspect these cows, and if not inspected and if certificates are not filed with me before these dates I shall take steps to prosecute all who violate this rule of the State board of health and impose penalty provided for in section 2511 of Code of 1906, which is \$50.

We quote in full as follows the ordinance adopted by the State board of health:

**An ordinance for the suppression and eradication of tuberculosis and other contagious diseases.**

*Be it ordained by the State Board of Health of the State of Mississippi:*

SECTION 1. That each person, firm, corporation or association managing, owning, or conducting a dairy in this State, or engaged in the sale of milk and its products, shall on or before the 31st day of July and the 31st day of December of each year have all cows used in and about the business examined for tuberculosis and other contagious and infectious diseases by some competent veterinarian to be designated by the health officer of the county, if any, and if none then by the secretary of this board, and shall on or before the dates mentioned file with the county health officer, if any, and if none then with the secretary of this board a certificate of the examining veterinarian, showing the health condition of all cattle so used and examined, and designating by particular description all such as may be infected with tuberculosis or other contagious and infectious diseases.

SEC. 2. That the officer with whom the certificate is filed shall immediately examine the same and condemn and forbid the use of all infected cows, the milk of which is impure and injurious to the public health, and shall immediately notify the owner or person having such cattle in charge of his action in the premises by written notice, duly mailed, postage prepaid, to such person at his known post-office address.

SEC. 3. That no person, firm, corporation, or association engaged in the business aforesaid, or in the business of buying and selling milk or its products shall sell or offer for sale any milk or any of the products thereof from any cow not examined and certified, as hereby required, or from any cow the use of which has been condemned and prohibited, or from any cow known to be infected as aforesaid, or the milk of which is impure and injurious to the public health.

SEC. 4. That no veterinarian shall ask, charge, or receive a sum in excess of \$1 for each cow examined and certified hereunder.

SEC. 5. That any person or corporation violating any of the provisions of this ordinance shall be subject to the penalties prescribed by section 2511 of the Code of Mississippi, 1906.

It is stated in the special pleas that on the 5th and 6th days of August, 1912, Dr. Leigh examined all the cows used by appellant in his dairy business and found and determined that six of them were affected with tuberculosis, and he made a report of this to the county health officer. That officer thereupon forbid the use of the six cows so affected, and on August 10 mailed to appellant a written notice as follows:

Dr. B. M. Leigh reports to me that six of your cows reacted to the tuberculin test. Let this notify you that these cows are condemned and the use of their milk prohibited by an ordinance of the State board of health made October 11, 1909.

It is further shown in the special pleas that none of the cows had been killed and that neither the county health officer nor the veterinarian declined to permit appellant to sell milk from his five other cows; and that all acts done by such health officer were done in good faith and solely for the protection of the public health. The pleas further show that the inspection of the cows was made at the special instance and request of appellant. We quote the concluding paragraph of one of the special pleas:

And this defendant further says that all his acts in the premises were done in good faith in his official capacity as county health officer, for the sole purpose of protecting the inhabitants of said county against becoming infected with dangerously contagious and infectious diseases by reason of using milk obtained from diseased and unhealthy cows; and that the public had a right, as a matter of general public interest, to know the truth concerning all the official acts and findings of this defendant and the said Dr. B. M. Leigh, touching the condition of all the dairy cows in said county in order that they might thereby protect themselves against infection from such of said cows as were diseased or unhealthy; and that no information was given out concerning the plaintiff's cows either by this defendant separately or jointly with the said Dr. B. M. Leigh, except such as was found to be true after careful inspection and examination. All of which this defendant is ready to verify; wherefore he says the plaintiff ought not to have and maintain said suit.

The pleas filed by the two appellees were practically identical.

By appellant's demurrer he contends that the ordinance promulgated by the State board of health is void for the following reasons:

Because the said State board of health had no authority of law to enact such ordinance.

(b) Because the said State board of health had no legislative powers and that such right could not be delegated to it nor was such power attempted to be delegated to it.

(c) Because said ordinance or alleged ordinance of said State board of health was unreasonable and void.

(d) Because said State board of health had no authority of law or otherwise to legislate itself and its appointees into office whereby they would be entitled to charge and collect fees from the citizens.



(e) Because said ordinance undertook to place in the control of one man the right to condemn plaintiff's property without trial or hearing and therefore it is in direct conflict with the constitution of the State of Mississippi, to wit, section 14.

(f) Because said ordinance is in conflict with section 17 of the State constitution in that it is an attempt to take private property without due compensation.

(g) Because said ordinance is in conflict with section 1 of the constitution of Mississippi, since it is an attempt to engraft upon said constitution an additional legislative body.

(h) Because said ordinance is in violation of the fourteenth amendment to the Constitution of the United States of America.

The legislature, by virtue of the police power of the State, may enact all needful laws for the purpose of preserving the health, preventing the spread of disease, and protecting the lives of the citizens. Under this power the legislature may create boards of health and bestow upon them necessary powers to promote the general health of the people by providing for them healthful conditions.

The legislature conferred upon the State board of health the power to make reasonable rules and regulations for the prevention of diseases and the protection of the health of the people. Section 2487 provides that:

It is the duty of the State board of health to supervise the health interests of the people, to investigate the causes and means of prevention of endemic and epidemic diseases; \* \* \* and to prescribe rules and regulations for the conduct of county health officers.

Section 2489 confers upon the board of health the power to make and publish rules, and is as follows:

The State board of health is authorized to make and publish all reasonable rules and regulations necessary to enable it to discharge its duties and powers and to carry out the purposes and objects of its creation, and reasonable sanitary rules and regulations, to be enforced in the several counties by the county health officer under the supervision and control of the State board of health.

Section 2491 provides for the appointment of a county health officer, and section 2494 requires him—

to enforce the rules and regulations of the State board of health in the prevention and spread of all contagious, infectious \* \* \* diseases in his county.

The penalty for violating the rules of the State board of health is set forth in section 2511 of the Code of 1906, which reads:

Any person who shall knowingly violate any of the provisions of this chapter, or any rule or regulation of the State board of health, or any order or regulation of the board of supervisors of any county herein authorized to be made, shall be guilty of a misdemeanor, and on conviction shall be punished by fine not exceeding \$50, or imprisoned in the county jail not more than one month, or both.

It is plain that the statutes referred to and quoted bestowed upon the State board of health the authority to adopt the ordinance.

We do not see in this case any violation of section 33 of the Mississippi constitution vesting in the legislature only the power to legislate. Statutes establishing boards of health for the purpose of advancing the public health by investing such boards with the power to adopt ordinances, rules, and regulations necessary to secure such objects are not unconstitutional as being a delegation of legislative power. *Blue v. Beach*, 155 Ind., 121, 56 N. E., 89, 50 L. R. A., 64, 80 Am. St. Rep., 195; *Abbott v. State*, 63 South., 667.

The rule or ordinance complained of is not unreasonable and void as contended by appellant. It is for the purpose of preventing the use by the people of impure or adulterated food, and thereby to preserve their health. Food is defined by the statute to mean every article used as food or drink by man. Sections 1580 and 2280 of the code of 1906. The requirement that the cows used in the dairy business, where milk therefrom is sold generally to the people, should be inspected as to their health twice during the period of a year is not an unreasonable regulation. This ordinance was not only reasonable but quite important and valuable in the preservation of the health of the citizens.

The regulation is within the police power of the State. It is in aid of good health, and consequently tends to the welfare and safety of the people. Tuberculosis is a disease dangerous and destructive to human life. It is recognized that tuberculosis may be communicated to human beings by the use of milk from cows affected with the disease. Therefore it was proper for the board of health, the body empowered and enjoined by the statute to supervise the health interest of the people and to prevent the spread of epidemic diseases, to make this regulation.

We quote from the opinion in the case of *Blue v. Beach*, *supra*, as follows:

In order to secure and promote the public health, the State creates boards of health as an instrumentality or agency for that purpose, and invests them with the power to adopt ordinances, by-laws, rules, and regulations necessary to secure the objects of their organization. While it is true that the character or nature of such boards is administrative only, still the powers conferred upon them by the legislature, in view of the great public interests confided to them, have always received from the courts a liberal construction, and the right of the legislature to confer upon them the power to make reasonable rules, by-laws, and regulations is generally recognized by the authorities. *Parker and Worthington on Public Health*, sec. 79; 4 *Am. & Eng. Ency. of Law*, 597; *Lake Erie, etc., Ry. Co. v. James*, 10 *Ind. App.*, 550, 35 *N. E.*, 395, 38 *N. E.*, 192.

The regulation does not violate sections 14 and 17 of the constitution of Mississippi of 1890, nor section 1 of the fourteenth amendment to the Federal Constitution. There is no purpose therein to deprive a person of property or restrict or interfere with his liberty of action. It is only an inspection provision ordained by the board in its work of supervising and promoting the health interest of the people. The ordinance is quite in harmony with the statute law. In truth, it is authorized by such law. We deem it also in harmony with the organic law of the State and Nation, the constitutions. Its only purpose is to prevent the sale and use of milk from diseased animals. Such milk has been declared by the statute to be adulterated food. By the provisions of section 2292, code of 1906, adulterated food, if sold or kept or offered for sale, shall be forfeited to the county. It will be noted that the ordinance does not prescribe a penalty for its violation, but only refers to the statute law (sec. 2511 of the code of 1906), which provides the penalty in such case.

We see no force in the contention by appellant that this regulation should be made by and be under the control of the live-stock sanitary board of the State. That board is not given any jurisdiction over matters such as is presented in this ordinance. The regulation in this case is to prevent the spread of a disease among human beings. It is not directed to sanitary measures in behalf of live stock.

The ordinance was authorized, it is reasonable, it is not in violation of any constitutional provision. The action of the circuit judge in overruling the appellant's demurrer was correct. The case is affirmed.

## STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

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### LOUISIANA.

#### **Communicable Diseases—Additional Diseases Made Notifiable. (Reg. Bd. of H., Feb. 18, 1915.)**

The section on diseases reportable for investigation and record was amended so as to read:

"For purposes of investigation and statistical record, pellagra, trachoma, hook-worm, malaria, and whooping cough are hereby made reportable diseases in the State of Louisiana, and attending physicians must report to the Louisiana State Board of Health and to the respective local health officials all cases of these diseases in the same manner as provided in section 13 of the Sanitary Code."

#### **Proprietary or Patent Medicines—Registration with State Board of Health Required. (Reg. Bd. of H., Feb. 18, 1915.)**

Section 552 was amended by the addition of the following as 552 (a):

"SEC. 552 (a). No proprietary or patent medicine manufactured, prepared, or intended for internal human use shall be held, offered for sale, or given away in the State of Louisiana until all requirements of acts relating to same and the following requirements shall, in each instance, have been met.

"The name of the ingredients" of every such medicine shall be registered in the office of the State board of health in such manner as the regulations of said board shall direct.

"The expression 'proprietary or patent medicine,' for the purpose of this section, shall be taken to mean and include every medicine or medicinal compound, manufactured, prepared, or intended for internal human use, the name, definition, or composition of which is not to be found in the United States Pharmacopœia or National Formulary, or which does not bear the name of each ingredient conspicuously, clearly, and legibly set forth, in English, on the outside of each bottle, box, or package in which the said medicine or medicinal compound is held, offered for sale, sold, or given away.

"The provisions of this section shall not, however, apply to any medicine or medicinal compound, sold or given away upon the written prescription of a duly licensed physician or dentist, provided such medicine or medicinal compound be sold or given away to or for the use of the person for whom it shall have been prescribed, and provided also that the said prescription shall have been filed at the establishment or place where such medicine or medicinal compound is sold or given away, in chronological order according to the date of the receipt of such prescription at such establishment or place. Every prescription shall remain so filed for a period of two years.

"The names of the ingredients of proprietary and patent medicines registered in accordance with the terms of this section, and all information relating thereto or connected therewith, shall be regarded as confidential and shall not be open to inspection by the public or any person other than the official custodian of such records in the State board of health, such persons as may be authorized by law to inspect such

records, and those duly authorized to prosecute or enforce the Federal statutes, the laws of the State of Louisiana, both criminal and civil, and the ordinances of any parish or municipal board of health, police jury, or council, or commission of the State of Louisiana, but only for the purpose of such prosecution or enforcement.

"No manufacturer, dealer, agent, salesman or saleswoman shall cause to be printed, written or indicated on any bottle, wrapper, carton, or other container, in any newspaper, circular, poster, handbill, or otherwise, any advertisement of any proprietary or patent medicine, with intent to sell, give away, barter, exchange, or in any wise dispose of same, which contains any assertion, representation or statement of fact untrue, deceptive or misleading.

"The penalty for the violation of this regulation shall be as provided in section 3 of act 98 of 1906, as follows:

"That any person violating any of the provisions of said Sanitary Code, shall on conviction by any court of competent jurisdiction, be fined not less than \$10 nor more than \$200 for the first offense; not less than \$25 nor more than \$400 for the second offense; not less than \$50 nor more than \$500, or imprisonment for not less than 10 days nor more than 6 months, or both in the discretion of the court, for each subsequent offense.

"This regulation shall become effective September 18, 1915."

**Foodstuffs—Places Where Stored, Prepared, or Sold Must not be Used for Domestic or Sleeping Purposes. (Reg. Bd. of H., Feb. 18, 1915.)**

Section 268 was amended by the addition of the following as paragraph (c):

"(c) No room occupied wholly or partly as a fish or meat market, nor other place where food is stored, sold, prepared, or served to the public, shall be used for domestic or sleeping purposes."

**Vessels—Disinfection and Fumigation. (Reg. Bd. of H., Feb. 18, 1915.)**

*Be it enacted by the board of health of the State of Louisiana, That the Sanitary Code of the State of Louisiana be amended by the addition and insertion of the following, which shall be section 56 (a):*

"SEC. 56 (a). That all steamboats, ships, or other water crafts driven by steam or other power, and of whatsoever nature or kind, used for the transportation of passengers or freight on all navigable streams or water bodies within the State of Louisiana, shall be subject to disinfection and fumigation under the direction and rules of this board before leaving the port of New Orleans or other ports for other points in the State.

"That it shall be lawful for any health officer, agent, or employee of this board, acting under the authority of the board of health, to go upon and on any steamboats, ships, or other water craft aforesaid, for the purpose of disinfecting and fumigating said craft, and it shall be unlawful for any owners, masters, charterers, or any other persons whatsoever, of said water crafts to interfere with the said health officers, agents, or employees of the board of health, in the performance of the duties imposed upon them to carry out the purposes of this resolution.

"That any owner, charterer, master, or other person violating any of the provisions of this ordinance or any regulations adopted by this board on this subject, shall be guilty of a misdemeanor and the offender shall be punished by fine of \$25 or 30 days' imprisonment in the parish jail for each and every offense, on conviction before any court of competent jurisdiction, as provided for by section 39 of act 192 of 1898, and acts amendatory thereto."

**MASSACHUSETTS.****Sausages or Chopped Meat—Manufacture—License not Required in Cases of Retail Dealers. (Chap. 22, Act Feb. 23, 1915.)**

SECTION 1. The provisions of chapter 325 of the acts of the year 1914,<sup>1</sup> requiring a license for the manufacture of sausages or chopped meat, shall not apply to retail dealers in chopped meats and unsmoked sausages who manufacture the same for their retail trade.

**Communicable Diseases—Data Relative to, to be Kept by Local Boards of Health. (Chap. 52, Act Mar. 12, 1915.)**

SECTION 1. Section 51 of chapter 75 of the Revised Laws is hereby amended by striking out the words "in blank books to be provided by the secretary of the commonwealth," in the first and second lines, and by inserting after the word "report," in the sixth line, the words "or other data required by the State department of health. Such record shall be kept in such manner or upon such forms as shall be prescribed by the said department," so as to read as follows:

"SECTION 51. The board of health shall keep a record of all reports received pursuant to the two preceding sections, which shall contain the name and location of all persons who are sick, their disease, the name of the person who reports the case, and the date of such report or other data required by the State department of health. Such record shall be kept in such manner or upon such forms as shall be prescribed by the said department. Said board shall give immediate information to the school committee of all contagious diseases so reported to them."

**Eggs—Sale of, After Cold Storage. (Chap. 55, Act Mar. 12, 1915.)**

SECTION 1. Section 1 of chapter 538 of the acts of the year 1913,<sup>2</sup> as amended by chapter 545 of the acts of the year 1914,<sup>3</sup> is hereby further amended by striking out the words "and shall be done in such manner as is approved by the State board of health," at the end of the section, and inserting in place thereof the words "except that the container in which eggs sold at retail are delivered to the customer may be marked in letters less than 1 inch in height if uncondensed gothic type is used, but such letters shall in no case be less than one-half inch in height. All marking required by the provisions of this act shall be done in such manner as shall be approved by the commissioner of health," so as to read as follows:

"SECTION 1. Whenever eggs that have been in cold storage are sold at wholesale or retail, or offered or exposed for sale, the basket, box, or other container in which the eggs are placed shall be marked plainly and conspicuously with the words 'cold-storage eggs,' or there shall be attached to such container a placard or sign having on it the said words. If eggs that have been in cold storage are sold at retail or offered or exposed for sale without a container, or placed upon a counter or elsewhere, a sign or placard, having the words 'cold-storage eggs' plainly and conspicuously marked upon it, shall be displayed in, upon, or immediately above the said eggs; the intent of this act being that cold-storage eggs sold or offered or exposed for sale shall be designated in such a manner that the purchaser will know that they are cold-storage eggs. The display of the words 'cold-storage eggs,' as required by this act, shall be in letters not less than 1 inch in height, except that the container in which eggs sold at retail are delivered to the customer may be marked in letters less than 1 inch in height if uncondensed gothic type is used, but such letters shall in

<sup>1</sup> Public Health Reports, June 12, 1914, p. 1599.

<sup>2</sup> Public Health Reports, July 25, 1913, p. 1533.

<sup>3</sup> Ibid., June 26, 1914, p. 1727.



no case be less than one-half inch in height. All marking required by the provisions of this act shall be done in such manner as shall be approved by the commissioner of health."

### MISSISSIPPI.

#### Nuisances—Abatement of. (Chap. 259, Act Mar. 28, 1914.)

SECTION 1. Be it enacted by the Legislature of the State of Mississippi, That chapter 222, laws of 1912, be, and the same is hereby, amended so as to read as follows:

2495 (2277). *Nuisance*.—The State board of health, or its secretary or sanitary officers or representatives, when informed by county health officers or otherwise of the existence of any matter or thing calculated to produce, aggravate, or cause to spread of [sic] any epidemic or contagious disease, or to affect injuriously the health of the public or community may declare the same a nuisance, and when it does so it shall notify the district attorney or county attorney of the district or of the county, when [sic] the nuisance exists, who shall forthwith commence proceedings by information in the justice, circuit, or chancery court to have the same abated, and the parties in interest shall have five days' notice of the proceedings, which shall be served as ordinary suits. Such proceedings may be tried by the justice of the peace, the judge, or chancellor in term time or in vacation in a summary way, and if the matter be urgent shall be tried without delay; but the parties in interest shall have a jury if they demand it, which the justice of the peace, judge, or chancellor shall cause to be summoned if in vacation at some early day to be fixed by him, and the matter shall be tried as other causes by the justice of the peace and jury, judge and jury, or chancellor and jury, and if the matter be found to be a nuisance the justice of the peace, judge, or the chancellor shall order the same abated, which shall be executed by the sheriff or other proper officer, and an appeal shall not be allowed therefrom except from the justice's court. This section shall not affect the right which municipalities may have to abate a nuisance or common law and equity proceeding for that purpose.

### PORTO RICO.

#### Foodstuffs—Protection—Sanitary Regulation of Markets, Hotels, Restaurants, etc. (Proclamation Feb. 24, 1915.)

*Sanitary rules and regulations No. 31*.—The following rules and regulations, in accordance with the provisions of act No. 81, approved March 14, 1912, having been approved by the executive council on February 10, 1915, are hereby promulgated for the information and guidance of all concerned:

SECTION 1. All meat, fish, vegetables, fruits, and other prepared foodstuffs intended for human consumption shall be kept, stored, and transported at all times in fly and dust-proof compartments or containers in such a manner as to prevent contamination by dust or by flies or other insects and to prevent handling of the same by patrons or prospective purchasers. All such meat, vegetables, fruits, and other prepared foodstuffs kept, sold, or offered for sale, shall be maintained in receptacles free from decayed matter of all kinds.

SEC. 2. When exposed for sale in the open air such meat, fish, vegetables, fruits, and other prepared foodstuffs shall be displayed on a shelf or platform at least 18 inches above the level of the ground.

SEC. 3. All hotels, restaurants, eating saloons, candy factories, meat markets, bakeries, and the kitchens thereof, or any other place where foodstuffs are kept, prepared, cooked, or served to customers, shall be kept sanitary and clean; and the meats, fish, legumes, candies, and other foodstuffs prepared to be cooked and served in said places shall be protected from dust, dirt, flies, and vermin by means of glass cases, wire screens, or other device approved by the department of sanitation.

SEC. 4. No person shall handle meat, fish, vegetables, fruits, or other prepared food-stuffs intended for human consumption, except in original envelopes and packages, unless he has been supplied with a certificate of good health signed by the local chief of sanitation or by a physician approved by the director of sanitation, and all such persons shall use all reasonable precautions to keep themselves in a cleanly condition.

SEC. 5. The use of any storeroom as sleeping quarters is prohibited, providing same is to be utilized for the sale, manufacture, handling, or storing of alimentary substances destined for public consumption.

SEC. 6. The construction of living rooms will not be permitted, nor will any room already constructed be used as a bedroom, providing they are located on the same floor of the building destined for a store as that in which food substances are stored, unless said rooms are absolutely independent from those containing merchandise.

\* \* \* \* \*

SEC. 9. All meats, fish, vegetables, fruits, or other foodstuffs intended for human consumption found to be contaminated, adulterated, or unfit for human consumption for any other reason may be retired from sale by a duly authorized officer of the sanitation service and its sale or use for human consumption be prohibited or prevented by seizure or by any other means that may be necessary and be held until such time as the proper court may determine the disposition to be made thereof.

SEC. 10. Any infraction of any of the dispositions of these regulations shall be punished in accordance with section 33 of a "law to reorganize the service of sanitation," approved March 14, 1912.

#### **Flies—Prevention of the Entrance and Breeding of. (Proclamation Feb. 24, 1915.)**

SEC. 7. Morgues and autopsy rooms in hospitals, cemeteries, sanatoriums, etc., shall be made fly proof by screening all doors and windows with wire netting.

SEC. 8. The existence of any collection or pile of garbage, manure, rubbish, dead animal or of any other animal or vegetable matter which can serve as a breeding place for flies, or to attract them, within the urban zone of any municipality, or near any inhabited place, shall be considered a public nuisance, and the owner, tenant, or agent of the property upon which the said collection or pile of garbage, etc., exists will be responsible therefor and shall be punishable under the provisions of section 330 of the penal code.

### **WEST VIRGINIA.**

#### **State Department of Health—Organization, Powers, and Duties. (Act Feb. 26, 1915.)**

SECTION 1. There is hereby created and established a State department of health; which shall be constituted as provided in this act, and shall exercise all the powers and duties now conferred and imposed by law upon the State board of health, and such other powers and duties as are herein provided for.

The State department of health shall consist of a commissioner of health, whose office shall be located at the seat of government; a public health council, of which the commissioner shall be an ex-officio member; directors of divisions, and other employees as herein provided for.

SEC. 2. The commissioner of health shall be appointed by the governor, by and with the consent of the senate, and shall be a physician skilled in sanitary science; and experience in public health administration. The term of office of the commissioner of health shall be four years; he shall receive an annual salary of \$3,000 and necessary expenses incurred in the performance of official business, and shall not engage in any other occupation or business.

The commissioner of health shall be the administrative head of the State department of health and he shall be ex officio a member of its public health council. His duties shall be to administer the laws and regulations of the department; to prepare rules and regulations for the consideration of the public health council; and with the approval of said council, to appoint, remove, and fix the compensation of the directors of divisions and all other employees; but said compensation shall be within the limitations of appropriation therefor; to advise with the public health council; keep himself informed as to the work of each local health officer within the State; aid each health officer in the performance of his duties; assist each local health officer in making an annual sanitary survey of the territory within his jurisdiction, and in maintaining therein a continuous sanitary supervision; adjust questions of jurisdiction arising between local health officers within the State; study the cause of excessive mortality or morbidity from any disease in any portion of the State; promote efficient registration of births, deaths, and notifiable diseases; inspect and report from time to time the sanitary condition of institutions, schools and schoolhouses, public conveyances, dairies, creameries, slaughterhouses, workshops, factories, labor camps, hotels, and places where offensive trades or industries are conducted; inspect and report the sanitary condition of streams, sources of water supply, the sewerage facilities; endeavor to enlist the cooperation of all physicians and volunteer health organizations in the improvement of public health; promulgate information to the general public in all matters pertaining to the public health. He shall perform all executive duties now required by law of the State board of health and other customary duties incident to his position as chief executive officer, and shall provide for offices and equipment necessary for the transaction of the business of the State department of health, out of funds appropriated for the State department of health.

He shall submit annually to the governor on or before the 1st day of November, or as soon thereafter as practicable, a report of the operations of the department, with any recommendations he may have to make, which report shall be printed and distributed as soon as practicable thereafter in the same manner as other public documents of the State.

The commissioner, whenever required by the governor, shall report to him as to any designated subject or matter, and furnish such information as may be required.

The commissioner of health may direct any official or employee of the State department of health to assist in the study, control, suppression, and prevention of diseases in any part of the State, and necessary expenses shall be paid while in the performance of such duty.

SEC. 3. The public council shall consist of the commissioner of health and six other members, who shall be appointed by the governor, by and with the consent of the senate. Said commissioner and other members shall be graduates of a regular medical school and shall have at least five years' experience in the practice of medicine. Of the members, other than the commissioner, first appointed, three shall hold office for two years, and three for four years; the terms of offices of members thereafter appointed, except to fill vacancies, shall be four years. Vacancies shall be filled by appointment for the unexpired term. The public-health council shall meet at least twice a year, and at such other times as they shall determine by their rules, or upon the request of the commissioner of health, the members, other than the commissioner, to receive \$10 per diem, not to exceed 60 days in any one calendar year, and actual and necessary traveling expenses, when engaged in the actual discharge of their duties.

The public-health council shall elect one of its members president, whose term of office shall be two years. The commissioner of health shall be secretary of the public-health council.

It shall be the duty of the public-health council to promulgate rules and regulations; take evidence of appeals, approve plans and appointments, hold hearings, advise

with the commissioner of health, define the qualification of local health authorities, and directors of divisions and said directors of divisions shall be graduates of reputable colleges and discharge other like duties required by law of the present State board of health.

The public-health council shall have power, by the affirmative vote of the majority of its members, to establish, and from time to time amend, regulations under the public-health laws, the enforcement of which devolves upon the State commissioner of health.

Every general regulation adopted by the public-health council shall state the day on which it takes effect, and a copy thereof, duly signed by the commissioner of health, shall be filed in the office of the secretary of state, and a copy thereof shall be sent by the commissioner of health to each health officer within the State, and shall be published in such manner as the public-health council may determine. Any violation of the regulations so promulgated, when said regulations are reasonable and not inconsistent with the law, shall be a misdemeanor and punishable by a fine of not less than \$10 nor more than \$300, and by imprisonment, in the discretion of the court, for not more than 30 days in the county jail.

SEC. 4. Inspectors, examiners, or other persons appointed by the commissioner of health may be appointed at such time or times as by him deemed necessary; and they shall act as representatives of the commissioner of health, and under his direction shall secure the enforcement of the provisions of the public-health laws and regulations and shall have the right of entry into any workshop, public school, factory, dairy, creamery, slaughterhouse, hotel, or other place of business or employment, or any common carrier or public utility when in the discharge of his duties. Any person interfering with or attempting to interfere with any inspector, examiner, or any other duly authorized employee of the commissioner in the discharge of his duties under this section shall be guilty of a misdemeanor and upon conviction fined not exceeding \$100.

SEC. 5. There shall be in the State department of health the following divisions:

Division of preventable diseases.

Division of sanitary engineering.

The commissioner of health shall appoint, with the advice of the public health council, a director to take charge of each division, and shall prescribe, with the advice of the public health council, the duties pertaining to each division and arrangement of the subdivisions, if any, thereof. The compensation of directors of divisions shall be fixed by the governor and commissioner of health in the manner herein provided.

SEC. 6. The State department of health shall have the authority to enforce all the laws of the State concerning the public health, and shall take care to protect the life and health of the inhabitants of the State, and to that end shall make or cause to be made sanitary investigations and inquiries respecting the cause of diseases, especially of epidemics, endemics, and the means of prevention, suppression, or control, the source of mortality and the effects of localities, employments, habits, and circumstances of life on the public health, and shall gather information in respect to these matters and kindred subjects for diffusion among the people. It shall inspect and examine food, drink, and drugs offered for sale or public consumption in such manner as shall be deemed necessary, and shall report all violations of all laws of this State relating to pure food, drink, and drugs to the prosecuting attorney of the county in which such violations occur and lay before such prosecuting attorney the evidence in its knowledge of such violations. The commissioner of health or any member of the public health council may make complaint and cause proceedings to be instituted against any person or persons or corporation for a violation of any of the health laws of this State without the sanction of the prosecuting attorney of the county in which proceedings are instituted if said officer fail or refuse to discharge his duty, and in no such cases shall they be required to give security for costs.



SEC. 7. Whenever the character and location of plumbing, drainage, water supply, sewers, and disposal of sewage, garbage, or other waste materials of cities, towns, and villages, offensive trades, hotels and labor camps, and the ventilation, warming, natural lighting, and excreta disposal in public utilities, in public halls, churches, schoolhouses, workshops, prisons, and all other public institutions are such as to endanger the public health, the public health council shall have power to make and enforce rules regulating the same.

It shall promulgate and recommend regulations, not inconsistent with law, governing the disposal of excreta in coal mines, examine into and advise with the chief of department of mines as to the ventilation of coal mines and how to treat promptly accidents resulting from poisonous gases. Nothing herein contained shall be construed to give the State department of health the power to regulate or interfere with the drainage from any mine or manufacturing plant unless the drainage from said mine or manufacturing plant shall contain disease-producing bacteria in sufficient numbers to endanger health. The State department of health is empowered to establish and strictly maintain quarantine at such places as it may deem proper, and may adopt rules and regulations to obstruct and prevent the introduction or spread of smallpox or other contagious or infectious diseases into or within the State, and shall have the power to enforce these regulations by detention and arrest, if necessary. It shall have power to enter into any town, city, factory, railroad, train, steamboat, or other place whatsoever and enter upon and inspect private property for the purpose of investigating the sanitary and hygienic conditions and the presence of cases of contagious and infectious diseases, and may, at its discretion, take charge of any epidemic or endemic conditions and enforce such regulations as it may prescribe. All expenses for guards or other expenses incurred in controlling any endemic or epidemic conditions shall be paid by the county or municipality in which such epidemic occurs.

The State department of health shall provide at its discretion vaccine lymph, diphtheria antitoxin, tetanus antitoxin, and other forms of serum or vaccine preventives of disease that it may deem necessary and distribute the same free of charge to county and municipal health officers, to be used for the benefit of the poor and indigent, and in other cases where it may be urgently necessary to check contagions and control epidemics.

SEC. 8. The commissioner of health shall inquire into and investigate all nuisances affecting the public health in any county, city, or village in the State, and is authorized and empowered to apply to the judges or to any judge of the circuit court for the county in which such nuisance shall exist, in term or vacation, for an injunction forthwith to restrain, prevent, or abate such nuisances.

SEC. 9. When in the opinion of the public health council any local health authority shall fail or refuse to enforce necessary laws and regulations to prevent and control the spread of contagious or infectious disease declared to be dangerous to the public health, or when, in the opinion of the said council, a public-health emergency exists, the commissioner of health may enforce the rules and regulations of the State department of health within the territorial jurisdiction of such local health authorities, and for that purpose shall have and may exercise all the powers given by statutes to local health authorities; all expenses so incurred to be a charge against the counties, cities, or towns, concerned. And in such cases the failure or refusal of any local health officer or local health body to carry out the lawful orders and regulations of the public health council shall be sufficient cause for the removal of such local health officer or local health body from office; and upon such removal the proper county or municipal authorities shall at once nominate a successor other than the person removed as now provided by law.

SEC. 10. The public health council shall make regulations to provide clean and safe milk and fresh milk products and when promulgated these regulations shall be



the minimum requirements to be enforced by local health authorities throughout the State.

SEC. 11. The State department of health shall have the advisory medical supervision of the State tuberculosis sanitarium, and the State board of control shall have the control of the business and fiscal affairs thereof. The director of the division of preventable diseases, under the supervision of the commissioner of health, shall encourage measures for the suppression of tuberculosis, such as clinics, camps, open-air schools, sanatoria, district nursing, antituberculosis societies, diffusion of knowledge, and other means.

SEC. 12. The public health council, consisting of the commissioner of health and six other members as specified in section 3 of this act, shall, in addition to the duties hereinbefore or hereinafter specified, examine all applicants for license for the practice of medicine and surgery in this State and issue certificates of license to all applicants who are legally entitled to receive same; and said certificates of license shall be signed by the president of the council and by the commissioner of health as secretary thereof. The examination of applicants and the issuing of certificates of license thereto shall be governed by sections 9, 10, and 11 of chapter 150 of the code of West Virginia, and the words "State board of health," wherever used in said sections, shall mean public health council as established by this act. The term "practice of medicine and surgery" as used by this act shall be construed to be treatment of any human ailment or infirmity by any method. To open an office for such purpose or to announce to the public in any way a readiness to treat the sick or afflicted shall be deemed to engage in the practice of medicine and surgery within the meaning of this act: *Provided*, This clause shall not apply, however, to regularly registered optometrists.

SEC. 13. The commissioner of health may, with the advice of the public health council, establish branches of the hygienic laboratory at such points within the State as he may deem necessary in the interest of the public health to insure prompt bacteriologic examinations, and for said purpose may expend annually a sum not in excess of \$1,000. The right of appeal from any order of the public health council or any of its officers or agents shall lie to the circuit court of the county where the property rights or personal liberties have been affected, and the right of appeal shall be limited to 30 days from the time a general order is entered.

Any two or more counties may combine to cooperate with the State department of health, either by special vote or by vote of their respective boards of health, and participate in the employment of trained health officers and other agents or in the installation and maintenance of a common laboratory and other equipment. Whenever such counties shall decide to so cooperate and shall appropriate a sum or sums of money for such joint or cooperative action, a sum equal to two-fifths of the total amount contributed by the cooperating counties shall be added thereto from the appropriation made for the State department of health: *Provided*, That the general place of cooperation as well as the principal health officer, executive agent, or laboratory director employed by such counties shall first have been approved by the public health council: *And provided further*, That no sum so paid to any group of counties shall exceed \$500 in any one year, and provided such cooperation by the State department of health shall be limited to not more than \$3,000 annually.

[This law goes into effect on May 16, 1915.]

## **MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.**

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### **WESTFIELD, MASS.**

#### **Milk—Production, Care, and Sale. (Reg. Bd. of H., June 2, 1914.)**

**RULE 1.** No person shall engage in the sale or distribution of milk in Westfield, Mass., except in accordance with the public statutes contained in the revised laws of Massachusetts, chapter 56, and in the acts in amendment thereof and the rules adopted by the board of health of said Westfield.

**RULE 2.** All persons desiring to engage in the sale, delivery, or distribution of milk in Westfield, Mass., shall first make application for permission so to do upon blanks provided for that purpose, and no license will be issued until all regulations governing the production and care of milk are complied with by the dairies supplying milk to the applicant. No license will be granted for the sale or distribution of milk in Westfield produced or obtained from any dairy which has not been inspected by the board of health, or from any dairy refusing permission for such sanitary inspection, or producing milk under conditions which are in violation of these regulations.

**RULE 3.** All persons engaged in the sale, delivery, or distribution of milk in Westfield shall furnish the board of health upon proper blanks provided a list of the names and locations of the dairy farms from which the milk so distributed is obtained, and shall, before making any changes in their supply, notify the board of health of such intended changes. Any person neglecting to comply with this regulation, or who dispenses milk from any dairy whose milk has been excluded from Westfield by the board, shall have his license revoked.

**RULE 4.** All wagons or other vehicles and utensils used in the conveyance of milk for distribution or sale in Westfield shall be kept in a cleanly condition and free from offensive odors. Receptacles containing milk shall at all times during transportation be properly covered. Each wagon or vehicle used for sale, delivery, or distribution of milk shall have the name of the owner, residence, and license number painted thereon.

**RULE 5.** No license shall be issued for the sale of milk in any store, shop, market, bakery, or other establishment outside of a properly equipped milk plant, except in properly labeled and stoppered bottles. All milk so kept for sale shall be maintained at a temperature not above 50° F., in a suitable refrigerator or cooler, properly drained and cared for and as approved by the board of health. The attendant making a sale of milk may transfer it to a container furnished by the customer at the time of purchase, but no bottle of milk shall be left unstoppered. A special permit must be obtained for the sale of milk from bulk containers to be drank on the premises.

**RULE 6.** All dealers engaged in the sale, delivery, or distribution of milk either in bulk or bottles, except as specified in rule 5, shall provide a separate room well lighted, ventilated, and properly screened, in such location as is approved by the board of health, in which the bottling, handling, and storage of milk is carried on. All such milk rooms or plants shall be properly equipped for handling milk in a sanitary manner. The minimum requirements shall be: A cement floor with suitable drainage, smooth, tight walls and ceiling, a tank supplied with running hot and cold water for washing all utensils, approved facilities and methods for washing and cleaning milk

bottles, and facilities for storing the daily supply of milk at a temperature below 50° F. The entire room and all appliances shall at all times be kept clean and must not be used for other purposes. In no case shall milk bottles be filled at any place other than in a properly equipped milk room. All milk sold in bottles shall have a properly fitting stopper having thereon only the name and license number of the dealer supplying the milk. Milk tickets shall not be used a second time. No can or other vessel used to contain milk shall be transported in any vehicle used for the conveyance of garbage or other objectionable material or in any manner liable to cause contamination of milk.

**RULE 7.** No milk shall be delivered in bottles to any place where scarlet fever, diphtheria, or typhoid fever, or any other disease designated by the board, exists. Any consumer desiring bottled milk may provide individual receptacles in which the milk can be poured by the dealer, who shall retain the empty bottle. Any dealer disobeying this regulation shall have his license suspended or revoked.

**RULE 8.** No milk shall be brought into, held, delivered, or offered for sale in Westfield from cows that are either diseased, not properly cared for, or kept in any stable which is not at all times maintained in a clean, wholesome and sanitary condition; or from any dairy refusing permission to allow an inspection made by the board of health as to the equipment and methods used in producing milk. A permit will be issued to every dairy desiring to send milk into Westfield after an approved sanitary inspection has been made, and a permanent dairy number will be assigned to each dairy farm, to be used by dealers and this department for purposes of identification.

**RULE 9.** No milk shall be brought into, held, delivered, or offered for sale in Westfield from cows within 15 days before or 5 days after parturition, nor from cows having any inflammatory disease of the udder.

**RULE 10.** No person engaged in the business of producing milk to be sold or distributed in Westfield shall store, cool, mix, or strain said milk in any room which is occupied by horses, cows, or other animals, or for the storage of manure, or in any room used in whole or in part for domestic or sleeping purposes, unless such room is separated from other parts of the building to the satisfaction of the board of health. All rooms in which milk is stored, cooled, mixed, or strained shall be kept clean at all times to the satisfaction of the board of health, and all utensils actually employed in the storage, sale, or distribution of milk shall be washed with boiling water or sterilized with live steam before they are used again.

**RULE 11.** No urinal, water-closet, or privy shall be located in the rooms called for in the preceding section, or so situated as to pollute the atmosphere of said rooms. Manure shall not be stored in any room where cows are kept, or in other manner liable to contaminate the milk.

**RULE 12.** All milk produced for distribution or sale in Westfield shall be strained and cooled to 50° F. as soon as it is drawn, but said milk shall not be cooled or stored in any well, drinking trough used for watering animals, or in any receptacle located in the barnyard, or other manner not approved by the board of health. No milk shall be held, distributed, or sold in Westfield that has not been previously cooled at a temperature of 50° F.

**RULE 13.** Every person engaged in the production, storage, transportation, delivery, or distribution of milk to be sold in Westfield shall notify the board of health immediately on the occurrence of any case or cases of diphtheria, scarlet fever, typhoid fever, or any other contagious disease, either in himself or in his family, or amongst his employees or their immediate associates, or within the building or premises where milk is stored, handled, or distributed.

**RULE 14.** Each producer shall provide soap, water, and towel for cleansing the hands of each employee and the udders of the cows before each milking.

**Massachusetts standard—Milk:** Total solids, 12.15 per cent; fats, 3.35 per cent. Cream, 15 per cent fats.

**WEST HOBOKEN, N. J.**

**Definition of Terms. (Reg. Bd. of H., Apr. 27, 1914.)**

1. The term "board of health" or "board" as used in this ordinance shall be construed to mean the board of health of the town of West Hoboken or its official representative, except where otherwise specified when the board is not in session.
2. The term "person" as used in this ordinance to mean any person or persons, corporation, or association of persons.
3. The term "food" as used in this ordinance shall include every article used for food or drink by man, and every ingredient in such article, and all confectionery.
4. The phrase "contagious disease" shall be held to include any disease of an infectious, contagious, communicable or pestilential nature with which any person may be sick, affected, or attacked, and also any other disease publicly declared by this board or by the Board of Health of the State of New Jersey to be dangerous to public health.
5. The word "meat" as used herein shall be held to mean and include every animal substance used for human food and also any combination or mixture in which any animal substance used for human food is one of the ingredients.
6. The words "rule" or "regulation" as used herein shall be held to include such special rules or regulations as the board may promulgate from time to time, and the word "permit" as used herein shall be held to mean the permission in writing of this board, issued in accordance with this ordinance.
7. The word "rubbish" or the word "garbage" as used herein shall be held to mean and include all waste, refuse, or decayed organic matter.

**Nuisances. (Reg. Bd. of H., Apr. 27, 1914.)**

8. Whatever is dangerous to human health, whatever renders the ground, the water, the air, or food a hazard or an injury to human health, and the following specific acts, conditions, and things are, each and all of them, hereby declared to constitute nuisances.
9. The placing or depositing or allowing to remain in or upon any street or public place or in or upon any open lot or private property any dead animal or part of same, or any offal or garbage or any putrid meat or manure or any foul or offensive or obnoxious substance whatsoever.
10. Throwing upon or allowing to flow from any premises upon any street or public lot, open lots or public or private property, or the allowing to collect upon the surface of any premises any waste water, dirty water, slops, stable draining, liquid filth, overflow from any cesspool or privy vault, or of any offensive liquid or solid matter whatever.
11. Allowing or permitting any night soil, garbage, or any other offensive or decomposed solid or fluid matter or substance to leak or ooze from any cart or wagon or vessel in which the same may be conveyed or carried.
12. Throwing any dirt, filth, or other obstructions in or upon any street, as broken glass, wire, tin cans, or other matter that endangers the safe use of the streets by man or beast; also allowing of accumulation of dirt, filth, or other obstructions in the gutters.
13. Any house or building or part thereof or any room or cellar which is not sufficiently ventilated, drained, cleaned or lighted, or from which shall arise any foul or offensive gas or odor detrimental to health.
14. Any store, bakery, ice-cream store, confectionery, public dining room or any other room or place where food intended for distribution or sale is produced, manufactured, packed, stored, sold, or distributed that is used as a sleeping room, or that is directly connected with a sleeping room, lavatory, or toilet.

15. Spitting upon the floor, steps, or other portion of any public building or public conveyance or sidewalks or cars.

16. The accumulation of manure, unless it be in a vault or bin, constructed and maintained as hereinafter provided.

17. The accumulation of water in which mosquito larvæ breed.

**Buildings and Premises—Sanitary Regulation—Connections with Sewers. (Reg. Bd. of H., Apr. 27, 1914.)**

18. No owner, agent, or lessee of any building and vacant lot, or part thereof, shall lease or let, or hire out the same, or any part thereof, or allow the same to be used or occupied as a place in which or for any one to dwell or lodge, unless such building or such parts thereof so to be occupied as a dwelling or lodging shall be kept sufficiently lighted, ventilated, and drained and provided with proper water-closet accommodation, and are at all times in that condition of cleanliness and wholesomeness for which this code or any law of this State provides, or in which they or either of them require any such premises to be kept.

19. No person shall rent, let, lease, or occupy any building or house or part thereof, unless the premises shall at all times have a plentiful supply of potable water for domestic purposes provided at one or more places in such building or part thereof, or upon the land on which such house or building is erected, and whenever any basement or cellar or part thereof is used for any purpose of business, then the same shall be provided with sufficient natural light and ventilation and accommodation, such as a sanitary toilet and sink, and whenever a person served with a notice by this board to comply with this order shall fail to do so in the specified time, then this board shall forthwith close said premises until such order from this board shall be fully complied with.

20. All houses or other buildings abutting on streets in which a sewer is located or shall be laid hereafter shall be connected with said sewer by the owner, agent, or lessee of said premises.

21. Every building, tenement, or private house and every part thereof shall be kept clean and free from any accumulation of dirt, filth, garbage, and other matter in and on the same, or in the yard, court, passage, area, or alley connected with or belonging to the same.

22. The owner, agent, or lessee of any building or part thereof used in any degree for occupation by human beings, whether for business or dwelling purposes, shall keep the roof, gutters, leaders, and every part of the same and the sidewalls of such buildings so that the same shall not leak, and shall cause all the rain water to be drained and conveyed from such roofs, gutters, leaders, or sidewalls in such a manner as to prevent the dripping of water upon the ground or upon any portion or in the alley or yard adjacent thereto.

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26. No lime, ashes, coal, dry sand, hair, feathers, or other substance that is in a similar manner liable to be blown by the wind shall be sieved or agitated, nor shall any mat, carpet, rug, cloth, pillow, bed sheet, or bedding be shaken or beaten out of any window, door or opening of any tenement or private building, nor shall any cloth, yarn, garment, bedding, bed sheet, pillow, furniture, rugs, or any material be hung, kept, placed, or exposed in any place, door, or opening where any particle or dust therefrom will pass into any street, alley, or public or private place, or into any premises occupied or inhabited by human beings.

27. It shall be the duty of every owner, lessee, or tenant or any vacant, sunken, or excavated lot or place to keep the same at all times clean and inoffensive.



**Privies and Cesspools—Construction and Maintenance. (Reg. Bd. of H., Apr. 27, 1914.)**

23. No privy vault or cesspool shall be allowed to remain on any premises, or shall be built, in the town of West Hoboken, unless when unavoidable, and a permit therefor obtained from the board of health. The sides and bottom of every privy vault, cesspool, or school sink must be impermeable and secure against any saturation of the walls or the ground above the same, and such privy vault or cesspool shall be sprinkled each day with chloride of lime or other preparation to prevent the contents to become offensive or obnoxious.

24. All water-closets, privy vaults, or cesspools shall be constructed and maintained in accordance with the orders and to the satisfaction of the board of health as to ventilation, cleaning, and screening. The screening shall be done in such a manner that the filthy contents thereof shall not be accessible to flies.

25. Whenever the use of any privy vault or cesspool shall, for any reason, be discontinued, such privy vault or cesspool shall be entirely emptied, disinfected, and properly filled.

**Stables and Disposal of Manure. (Reg. Bd. of H., Apr. 27, 1914.)**

33. Every stall, stable, or other place in which horses, cows, or other like animals are kept, shall be provided with a properly constructed manure vault or bin, which shall be built water-tight, properly covered, and shall be fly proof; and said manure vault or bin shall not be nearer than 10 feet of the doors or windows of any building occupied by human beings, whether for business or dwelling purposes, and not nearer than 10 feet of the line of any adjoining lot, street, alley, or public place, without a permit from this board.

34. All manure and excreta shall be removed from any stall, stable, manure vault, bin, or other place at least once in each week.

35. To prevent the spreading of disease and the breeding of flies, all manure must be sprinkled daily with chloride of lime or any other preparation that acts as a repellant of flies.

**Foodstuffs—Production, Care, and Sale. (Reg. Bd. of H., Apr. 27, 1914.)**

36. The sale or exposure for sale of any article of food that is decayed or putrified, or that has become chemically or physically changed so that it is unwholesome or unfit for food, or that has been exposed to the infection of any contagious disease, is hereby prohibited and all such food shall be disposed of in a manner approved by this board.

37. No person shall expose for sale, outside of any building or within any building, store, or other place, or in course of delivery, any fruit, berries, meat, fish, fowl, vegetables, or other food or food products, except in closed containers, so that they are protected from flies, dust and dirt, and other injurious contamination: *Provided, however,* That this shall not apply to fruits and vegetables which must be necessarily peeled before use; such fruits and vegetables must, however, be placed on stands, tables, or other structures at least 20 inches above the surface on sidewalks, steps or floors of stores.

38. No store, nor any room of a dwelling, apartment, tenement, or other place, used for the production, manufacture, preparation, packing, storage, or distribution of food intended for sale or distribution, shall be directly connected with any sleeping room, toilet, or lavatory, and any store, room, building, or other place where an article used for human food is stored, kept, sold, or offered for sale, shall be kept in a clean, sanitary, and wholesome condition at all times.

39. The body of any animal or part thereof, any meat, fish, fruit, food products, prepared food, and all other food used for consumption by human beings, shall not be carried through any street or avenue in the town of West Hoboken unless the same is sufficiently covered so as to protect it from flies, dust, dirt, or other contamination injurious to health.

40. Clothing worn by operatives, employees, clerks, or other persons who handle food material or food, intended for distribution or sale, shall be in clean condition.

41. Persons employed in bakeshops shall, while working, not expose their body, but wear sufficient clothing; such clothing or garment shall not be used for street wear.

42. No person suffering or who has recently suffered from any contagious disease, and no person who was recently subjected to infection from a contagious disease shall be permitted to take part in the manufacturing, handling, sale, or distribution of food subject to the approval of this board.

43. All bakery goods, such as biscuits, pies, bread, crackers, etc., shelled nuts, dried fruits, meat, meat products, and other foods subject to the attacks of worms and flies, shall not be displayed unless protected from flies, dust and dirt, and other injurious contamination in suitable covered containers of glass, wood, or metal, and no person shall handle or allow to be handled any such foodstuffs except those that are engaged in the manufacturing, preparation, selling, or distribution of such food.

44. Whenever any cattle, meat, fish, bird, fowl, fruit, vegetable, or any other food, article, or substance intended for consumption by human beings is found in the town of West Hoboken in a condition which renders the same unsafe, unwholesome, or unfit for human food, any member or officer of the board of health is empowered to, and shall fix to such above-named food, article, or substance a label on which shall be written or printed the words "Condemned by direction of the board of health of the town of West Hoboken," and when such food, article, or substance shall be found in numbers, quantity, or bulk it shall only be necessary for such member or officer of this board to fix one such label to a conspicuous part of the container, compartment, tin, box, or other place where or wherein the same may be, and shall forthwith report every such condemnation to the office of the board of health in the town of West Hoboken, and no person shall destroy, deface, conceal, interfere with, or remove any such label affixed by any member or officer of this board.

45. It shall be the duty of the owner or person having custody of such food, article, or substance which has been condemned as aforesaid to immediately remove and destroy the same, and no person shall sell or offer for sale, exchange, or give away for consumption as human food any such food, article, or substance condemned as aforesaid.

46. Any member or officer of this board may, if he deem it necessary to do so, destroy or remove any food, article, or substance intended for human food found in the town of West Hoboken in a condition which renders the same unsafe, unwholesome, or unfit for the consumption by human beings.

47. All buildings, rooms, stores, shops, or other places where food is manufactured, prepared, produced, packed, stored, distributed, or sold in the town of West Hoboken shall be open for inspection by the members or officers of this board.

**Glasses, Cups, and Other Utensils—Cleaning of, in Places of Public Refreshment.**  
(Reg. Bd. of H., Apr. 27, 1914.)

48. All persons within the town of West Hoboken, in whose places of business persons are supplied with drinks of any kind whatsoever, to be drunk on the premises where supplied, shall, before supplying such drink, wash the glass, cup, or other drinking vessel thoroughly with water which has not therefor been used for the purpose of washing the same or any other glass or vessel, or for any purpose whatsoever.

**Barbers and Barber Shops—Regulation of. (Reg. Bd. of H., Apr. 27, 1914.)**

49. Every barber shop must be well ventilated, the shop, the furniture, fixtures and utensils must be at all times clean and sanitary; each barber shop must be provided with running hot and cold water and the following rules observed:

1. No barber shop shall be used for a sleeping room.
2. Barbers must wash their hands with soap and warm water before attending any person.
3. Clean towels shall be used for each person.
4. Alum or other material used to stop the flow of blood shall be only applied in powder form.
5. The use of powder puffs, sponges or finger bowls is prohibited.
6. Clipping machines, mugs, shaving brushes, scissors, razors, needles, pincers or other instrument shall be sterilized, either by immersion in boiling water or by exposure to live steam in a suitable sterilizer after each separate use.
7. Every barber shop within the town of West Hoboken shall be open for inspection at any time by this board or its officers.

**Milk and Cream—Production, Care, and Sale. (Reg. Bd. of H., Apr. 27, 1914.)**

50. Section 6 of an ordinance entitled "An ordinance to prevent the keeping and sale of adulterated and skimmed milk in the town of West Hoboken," passed April 6, 1909, is hereby amended to read as follows: Before such permit be granted the applicant shall pay the sum of \$2 for each wagon, cart or other vehicle from which milk or cream shall be offered for sale, sold, or delivered in the town of West Hoboken.

51. All milk sold or offered for sale shall be delivered, stored, or transported at a temperature not exceeding 50° F.

52. No milk shall hereafter be sold or offered for sale from a dairy having a rating below 60 per cent, such rating being based on the score card adopted by the Board of Health of the State of New Jersey.

53. No milk shall be transferred from any can, vessel, bottle, or container to any other upon any street or other public place, except that said transfer may be made to the vessel of the customer at the time of delivery.

54. Unless otherwise authorized by this board, milk shall be delivered to the consumer only in bottles or single service containers.

55. Samples of milk shall be furnished to the members of this board or its health officer on reasonable payment therefor.

56. All utensils, containers, or apparatus with which milk comes in contact or which are used for the collection or transportation of milk, shall be thoroughly washed and then sterilized. No milk container, utensil, or apparatus shall be used for any other purpose than that for which they are designed.

57. Every person engaged in the sale of milk or cream in the town of West Hoboken, when requested to do so by the board or its health officer shall furnish a true statement in writing setting forth the name of the person from whom such milk or cream is obtained, the name of the person who produces the same, and the locality where such milk or cream is produced, and upon like request shall furnish a true statement in writing setting forth the names and addresses of all persons in the town of West Hoboken to whom milk or cream is regularly delivered.

58. No person having a contagious disease, and no person coming in contact with a person suffering with a contagious disease, shall be engaged in the production or handling of milk or cream; nor shall such person handle any utensils or containers used in the production or sale of milk or cream; and when any contagious disease occurs in the home of a customer of any dealer of milk or cream, such dealer shall not leave any bottle or other milk container with such customer, but deliver milk or cream only by

pouring the same in vessels furnished by the customer or a member of his family, and then only when permission is given by the board or its health officer.

59. All premises whereon milk or cream is produced, kept, stored, sold, or distributed in the town of West Hoboken shall be open for inspection to this board and its officers at any time.

**Communicable Diseases—Notification of Cases—Quarantine—Disinfection—Hospitalization—School Attendance—Libraries. (Reg. Bd. of H., Apr. 27, 1914.)**

60. Every physician shall report in writing to the board of health in the town of West Hoboken the name of every patient he or she may have in the town of West Hoboken with cholera, smallpox, diphtheria, yellow fever, plague, typhus fever, scarlet fever, membranous croup, measles, tuberculosis (in any form), mumps, whooping cough, epidemic dysentery, chicken-pox, trachoma, malaria, cerebrospinal meningitis, poliomyelitis, or any other contagious, infectious, or communicable disease that may hereafter be declared by this board or by the Board of Health of the State of New Jersey to be dangerous to the public health, together with the precise locality where such patient may be found, immediately after such physician shall ascertain or suspect the nature of such disease, and shall be entitled to receive for each such report the sum of 10 cents from the disbursing officer of the town.

61. Whenever a person has or is suspected to have any of the diseases mentioned in the preceding section of this ordinance, or any other contagious disease, this board or its health officer shall deem it necessary to establish the true character of such disease, the board or its health officer may order a medical examination of such person; and any person or persons interfering with or refusing to permit such examination; when ordered by this board or its health officer, shall be guilty of violating this ordinance.

62. No principal, teacher, or superintendent of any school shall knowingly permit any child sick with any disease named in section 60, or any other contagious disease; or any child residing in any house in which scarlet fever, diphtheria, or smallpox exist, to attend any school until such time as the attending physician shall notify the board of health in writing that no more danger of infection exists, and until the board certifies to such teacher, principal, or superintendent that such child may attend school without danger of communicating the disease to others.

63. No child having suffered with diphtheria shall attend any school until at least two weeks have elapsed since the disappearance of the false membrane, and no premises which were occupied by a person sick with diphtheria shall be disinfected before the expiration of 14 days from the date of notification of the existence of such disease in writing to the board of health. No child suffering with scarlet fever shall attend any school and no disinfection of the infected premises shall take place before four weeks have elapsed since the notification in writing to the board of the existence of the last-mentioned disease: *Provided, however,* That the health officer of the town of West Hoboken may give permission in writing to admit the child which has been suffering with diphtheria or scarlet fever to attend school, or to have the premises disinfected in which the aforesaid diseases occurred, if in his judgment this can be done without danger of communicating the disease to others.

64. When any person within the jurisdiction of this board shall be affected by any contagious disease, such person shall, if deemed necessary by the board or its health officer, be removed to such place as the board or its health officer may order.

65. No person shall move or be removed, nor shall any person carry or remove a person affected with any contagious disease from any dwelling or other place without permission from this board, and if said permission is granted the carrying or removal shall be done in a manner directed by this board or its health officer, and not otherwise.

66. Any person knowing that any room is or has been occupied by any person suffering from smallpox, diphtheria, scarlet fever, typhus fever, yellow fever, tuberculosis, cholera, or plague, or knowing that any such room is or has been infected by any such disease, or who shall lease such room or grant or give the right of occupancy thereof to any person or persons before it shall have been disinfected and cleaned in a manner satisfactory to this board, shall be guilty of violating this ordinance.

67. No person or a member of any family occupying a room or apartment wherein a disease dangerous to public health exists shall take any book or magazine to or from any public library without a permit from the board of health. The board will inform the librarian of all cases, and until a written permit is given by the board he shall not allow books or magazines to be taken from or returned to the library from any apartment wherefrom a case of contagious disease was reported to him.

**Spitting—Prohibited in Public Places. (Reg. Bd. of H., Apr. 27, 1914.)**

68. It shall be unlawful within the town of West Hoboken for any person to spit or expectorate upon any sidewalk or walk of any street or alley, park or public grounds, or upon the floor, stairs, steps, or other part of any public hall, theater, or public building, or upon the floor, steps, or other part of any street car or other vehicle used for public travel.

**Public Conveyances—Sanitary Regulation. (Reg. Bd. of H., Apr. 27, 1914.)**

69. Each and every railroad car, street car, or other vehicle constructed for and engaged in the business of carrying passengers and used in the town of West Hoboken for the carrying or transportation of passengers and which are either drawn by animal, or are operated by steam, electric, or other mechanical power, shall on each and every day on which it may be used for the carrying and transportation of passengers be carefully and thoroughly washed, cleaned, and disinfected so that all filth and dirt are removed and no danger of infection of any contagious disease may exist.

70. No person shall at any time carry or convey in or upon any vehicle mentioned in the preceding section, nor shall any conductor or person in charge of any such vehicle allow to be carried or conveyed in or upon such car or vehicle, except on the front platform, any soiled or dirty articles of clothing or bedding in baskets, bundles, or loose.

71. No person suffering with, or being subjected to infection of any contagious disease, and no garment, clothing, bedding, article, or material which has been subjected to infection of any contagious disease, shall be carried or conveyed on any vehicle used for the carrying or transportation of passengers.

72. Any person or corporation operating any railroad car, trolley car, or other vehicle used for the carrying or transportation of passengers shall keep the streets in the town of West Hoboken in which such cars or vehicles are operated, sprinkled sufficiently with water, so as to prevent the raising of dust when such cars or vehicles are in motion.

73. Any street car operated in the town of West Hoboken shall be kept in a clean and sanitary condition, and a sufficient number of ventilators shall be open at all times to provide a plentiful supply of pure air. At the end of each trip trolley cars shall be ventilated as follows: The doors of each end of the car shall be opened wide and shall remain open at least two minutes.

**Board of Health—Employees—Right of Entry of, in Performance of Duties—Interference with. (Reg. Bd. of H., Apr. 27, 1914.)**

76. Any member of the board of health or the health officer of the town of West Hoboken shall have the right to enter into or upon any premises or buildings within the jurisdiction of this board, to make inspections or examinations required by any law of



this State, or by any code, ordinance, rule, regulation, or order of this board, or to determine whether any nuisance exists therein or thereon, or to ascertain whether the provisions of this code, ordinance, rules, regulations, or orders of this board are being followed or obeyed.

77. Any person or persons opposing such entry or interfering with or obstructing such inspection, examination, or execution shall be guilty of violating this ordinance.

**Penalty. (Reg. Bd. of H., Apr. 27, 1914.)**

81. Any person offending against any of the provisions of this code, or against any ordinance, amendment, or supplement thereto, adopted by the board of health of the town of West Hoboken, shall, upon conviction thereof, forfeit and pay a penalty of not less than \$10 and not more than \$50 for each and every offense.

82. If any article or section of this code, or any of the ordinances, amendments, or supplements thereto shall be questioned in any court and held to be invalid, the remainder of this code shall not be invalidated thereby, but shall remain in full force.

**WEST ORANGE, N. J.**

**Communicable Diseases—Notification of Cases—Births, Deaths, and Marriages—Registration of. (Reg. Bd. of H., May 7, 1914.)**

SECTION 1. That section 13 of an ordinance entitled "An ordinance for the protection of the public health of the town of West Orange," be amended to read as follows:

"Sec. 13. That any physician, midwife, nurse, clergyman, magistrate, or other person who shall officiate at any birth, marriage, or death, and who shall neglect to make return thereof to the proper officer, according to law, shall for each and every failure to make such return or report be liable to a penalty of \$50; that every physician shall report to the registrar of the board of health upon blanks made for that purpose, each and every case of the following diseases occurring in his or her practice, or which he or she shall be called to attend in this town, within 12 hours after his or her first professional attendance upon any person or persons having any of the following diseases, viz: Diphtheria (including membranous croup), scarlet fever, smallpox, yellow fever, typhoid fever, typhus fever, Asiatic cholera, measles, chicken-pox, pulmonary phthisis, acute anterior poliomyelitis (infantile paralysis), cerebrospinal meningitis, whooping cough, and mumps.

"Every householder or houseowner who has reason to believe that any member of his or her family or any person living, dwelling, or being in any building under his or her control or occupancy is affected by any of the contagious, infectious, or communicable diseases hereinabove specified shall, when no physician has professionally attended such sick person, within 12 hours after discovering the same, report the fact in writing to the same person and in the same manner as any physician attending such sick person would be required to do as hereinabove set forth.

"A fee of 10 cents shall be paid for each authentic case so reported, and upon failure to make such report or return within said time limit said physician or householder or houseowner shall be liable to a penalty of \$50."

**Communicable Diseases—Quarantine. (Reg. Bd. of H., May 7, 1914.)**

SECTION 1. That section 1 of an ordinance entitled "A supplement to an ordinance entitled 'An ordinance for the protection of the public health of the town of West Orange,' passed May 8, 1900," be, and the same is hereby, amended to read as follows:

"SECTION 1. That whenever any person shall have contracted any of the following diseases, that is to say: Diphtheria, scarlet fever, measles, German measles, mumps, smallpox, or yellow fever, the person who has contracted the said disease, together with his, her, or their attendants, shall be confined in a single room or a set of rooms, and shall not be allowed to depart therefrom, nor shall any person or persons be allowed

access to them in any way whatsoever, except members of the medical profession, until such person or persons shall have recovered from said disease or diseases, or shall have departed this life: *Providing, however*, That the period of quarantine above provided for shall in the case of diphtheria be for a period of not less than 14 days, in case of scarlet fever for a period of not less than five weeks, in case of measles or German measles for a period of not less than two weeks, and in case of mumps for a period of not less than 10 days."

**Garbage, Refuse, and Manure—Care and Disposal. (Reg. Bd. of H., May 7, 1914.)**

SECTION 1. The accumulation of manure, garbage, or any other substance on which fly larvæ, commonly known as maggots, breed, is hereby declared to be a nuisance, and any person creating or maintaining, and any person permitting or aiding in the creation or maintenance, of such nuisance shall, upon conviction thereof, forfeit and pay a penalty of not less than \$10 nor more than \$25 for each and every offense.

SEC. 2. Every stall, stable, or other place in which horses, cows, or other like animals are kept, situated east of Gregory Avenue, West Orange, shall be provided with a properly covered manure vault of sufficient capacity to hold all manure that may accumulate in such stall, stable, or place, and any person or persons owning such stall, stable, or place, who shall fail, or refuse to construct and maintain such manure vault, shall, upon conviction thereof, forfeit and pay a penalty of not less than \$10 nor more than \$50 for each and every offense.

**Privies and Cesspools—Construction, Location, and Disposal of Contents. (Reg. Bd. of H., May 7, 1914.)**

SEC. 3. No privy vault, cesspool, or manure vault shall hereafter be constructed in the town of West Orange without a permit therefor from this board of health. This shall not prohibit the construction of temporary privy vaults during the erection of new buildings; but in all such cases the contractor or person or persons in charge of construction work shall cause the contents of such vaults to be covered with lime, fresh earth, or ashes twice each day. All privy vaults, cesspools, and manure vaults for the construction of which permits may be granted shall be fly proof, so that the contents of the same shall be inaccessible to flies, and all existing privy vaults, cesspools, and manure vaults shall be made fly proof within 20 days after the passage of this ordinance. No privy vault, cesspool, or manure vault shall hereafter be constructed or maintained within 50 feet of any spring, well, or stream, the water from which spring, well, or stream is taken for domestic use, or within 10 feet of the property line fronting on any street, or within 15 feet of any door, window, or foundation of any house, nor shall any cover be put upon or over the same until said privy vault, cesspool, or manure vault has been inspected and approved by the board of health. No person occupying any premises, or owner thereof, wherein there is a privy vault or cesspool, shall permit or allow the contents of such privy vault or cesspool to overflow or escape therefrom.

Any person violating any of the provisions of this section of this ordinance, or failing to conform thereto within the time hereinabove provided, shall upon conviction pay a penalty of not less than \$10 nor more than \$50 for each and every offense.

**WINTHROP, MASS.**

**Milk—Production, Care, and Sale. (Reg. Bd. of H., Aug. 10, 1914.)**

(1) Rule 31<sup>1</sup> of the regulations of the board of health relating to milk and its production is hereby amended by inserting after the word "steam" in the third line of said rule 31 a period, and by striking out the words "or boiling water" in the fourth line of said rule 31, so that said rule 31 shall read as follows:

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<sup>1</sup> Public Health Reports, Aug. 14, 1914, p. 2172.

**RULE 31.** All utensils used in the handling of milk shall be thoroughly cleaned and sterilized after washing with steam. No milk bottles shall be used for any other purpose than as containers of milk.

(2) Rule 32 of the regulations of the board of health relating to milk and its production is hereby amended by striking out said rule and inserting in place thereof the following:

**RULE 32.** (a) Any person, firm, or corporation producing, selling, offering for sale, or delivering milk in the town of Winthrop shall furnish and file with the board of health a true statement in writing and under oath setting forth the locality and the dairy where such milk is produced, and shall notify said board in writing in like manner immediately upon changing the source of supply of such milk so sold, offered for sale or delivered in the town of Winthrop of such change, setting forth the new locality and dairy where such milk is produced. No milk which is produced at a dairy or locality which is not approved by the board of health shall be sold, offered for sale, or delivered in the town of Winthrop unless before such milk is so sold, offered for sale, or delivered the same is properly "pasteurized" as hereinafter defined: *Provided, however,* That the provisions of this rule shall not apply to milk which is "certified" in accordance with the standard generally accepted by the milk commission of the Suffolk District Medical Society for "certified milk."

(b) Pasteurized milk, as herein referred to, is milk heated to 145° F. and maintained at that temperature for 30 minutes. The milk shall be promptly cooled after pasteurization to a temperature of 50° F. or below such temperature, and immediately placed in proper containers. All pasteurized milk shall be labeled "pasteurized milk."

(c) No milk shall be sold, offered for sale, or delivered in the town of Winthrop which contains more than 300,000 bacteria per cubic centimeter, or which has a temperature of more than 50° F.

#### ZANESVILLE, OHIO.

#### Milk and Cream—Production, Care, and Sale. (Reg. Bd. of H., Mar. 4, 1914.)

**SECTION. 1.** No person shall bring into the city for sale, or shall sell or offer for sale any milk without a permit from the health office, except when such milk is sold to be drunk upon the premises where sold.

**SEC. 2.** Permits or licenses shall be numbered in the order of their issuance and shall be void after the 31st day of March and the 30th day of September following their issuance. A fee of 50 cents shall be charged for each permit, and if the holder thereof shall be found guilty in any court of law of violating the provisions of these regulations three times within a period of 12 months, such permit may be revoked by the board of health.

**SEC. 3.** No person shall bring into the city for sale or shall sell or offer for sale any milk which has been obtained from any milk dealer, dairyman, farmer, or other person not having a permit or license from the health office. No person or persons owning, operating, or acting for any creamery shall bring into the city for sale, or shall sell or offer for sale any milk, skimmed milk, buttermilk, or cream from said creamery unless a permit shall have been issued to such creamery by the health officer. This permit shall be issued to only such creameries as are equipped in a sanitary manner, and which receive milk only from farms and dairies holding a permit from the health officer.

**SEC. 4.** No person shall bring into the city for sale, or shall sell or offer for sale, any milk:

- (a) Containing more than 88 per cent of water or fluids.
- (b) Containing less than 12 per cent of milk solids.
- (c) Containing less than 3 per cent of milk fats.

- (d) From which any part of the cream has been removed.
- (e) Having a specific gravity of less than 1.029.
- (f) Containing more than two-tenths of 1 per cent of total acids, estimated in terms of lactic acid.
- (g) Containing any boric or salicylic acid, formaldehyde, or other foreign chemical.
- (h) Containing any pathogenic bacteria.
- (i) Containing bacteria of any kind more than 500,000 per cubic centimeter.
- (j) Drawn from any cow having a communicable disease, or from a herd which contains any diseased cattle, or from a herd the attendants of which are afflicted with or have been exposed to any communicable disease.
- (k) Drawn from any cow within 15 days before or 5 days after parturition.
- (l) Drawn from any cow which has been fed on garbage, refuse, swill, moist distillery waste or other improper food.
- (m) Having a temperature or which has been kept at a temperature higher than 60 degrees Fahrenheit.
- (n) Containing any appreciable amount of sediment or dirt. For the determination of the dirt content, milk samples (approximately one-half pint), shall be passed through a filter consisting of an absorbent cotton disk about one-eighth of an inch in thickness and with a filtering surface three-fourths of an inch to an inch in diameter.

The filters shall be graded as follows:

(1) *Clean* milk shall be that which does not leave on the cotton more than six particles of foreign matter large enough to be barely visible without magnification, nor tint or color the cotton except with fat.

(2) *Fairly clean* milk shall be that which can not be graded as clean milk, but which does not contain hairs, flies or fecal matter, nor sufficient particles of other matter, or sediment to cover or tint an area greater than five millimeters square visible without magnification.

(3) *Dirty* milk shall be one which contains more dirt than is permitted in fairly clean milk. It shall not contain flies or other insects, or sufficient dirt or sediment to obscure the cotton.

(4) *Filthy* milk shall include all milk in which the cotton is obscured by dirt or sediment, or which contains insects, fecal matter or other foreign objects with a dimension greater than five millimeters square.

(o) No person, firm, corporation, company, dairyman or dealer shall ship or bring into the city, have in their possession for the purpose of sale, sell or offer for sale any milk which, according to the above determination shall be graded as dirty or filthy.

*Provided*, That the first five subdivisions of this section shall not apply to milk sold under the name of skimmed milk as provided in section 5. *Provided, also*, That the sixth subdivision of this section shall apply only to fresh whole milk.

SEC. 5. No person shall bring into the city for sale, or sell or offer for sale milk from which the cream has been removed, either in part or in whole, unless sold as skimmed milk, and when sold as skimmed milk the container thereof shall bear a legibly written or printed label or cap with the words "skimmed milk" thereon in such a manner as to be easily seen and read.

SEC. 6. No person shall bring into the city for sale, or sell or offer for sale, any so-called skimmed milk containing less than 9.3 per cent of milk solids.

SEC. 7. Every person using in the sale or distribution of milk a delivery wagon or other vehicle shall keep the same at all times in a cleanly condition and free from any substance liable to contaminate or injure the purity of the milk.

SEC. 8. Every person using in the retail distribution or sale of milk a delivery wagon or other vehicle shall keep the name of the owner thereof and the number of the wagon license in letters not less than 2 inches in height upon the two sides of said delivery wagon or other vehicle.

SEC. 9. Every person using in the sale or distribution of milk a delivery wagon or other vehicle shall from April 15 to October 15 have and keep over said delivery wagon or other vehicle a covering of canvas or other material so arranged as to adequately protect the contents thereof from the rays and the heat of the sun.

SEC. 10. No person shall bottle any milk upon any delivery wagon or other vehicle, or in any other place than a milk house, dairy, or other building where milk is regularly stored and sold.

SEC. 11. No person shall transfer any milk intended for sale from one can, bottle, or receptacle into another can, bottle, or receptacle on any street, alley, or thoroughfare, upon a delivery wagon or other vehicle, or in any exposed place in the city of Zanesville, except in a creamery, milk depot, or in the inclosed premises of the customer of the dealer in milk.

SEC. 12. No person or dealer shall give, furnish, sell, or offer for sale or deliver any milk, buttermilk, sour milk, skimmed milk, or cream in quantities less than 1 gallon except in sanitary bottles, sealed with a suitable cap or stopper and except where the milk is sold at the milk house or depot, when the same may be dipped, and the dipped milk shall not be carried on the street in any other than a covered vessel.

SEC. 13. No person shall remove from any dwelling in which exists any case of communicable disease any bottles or other receptacles which have been or which are to be used for containing or storing milk, except with the permission of the health officer.

SEC. 14. No person shall use any milk ticket or paper bottle cap more than once.

SEC. 15. No person, firm, or corporation shall receive or have in their possession, nor place upon any platform or in any depot, wagon, truck, or other conveyance for shipment any bottle, can, or other receptacle used in the transportation or delivery of milk which has not been properly washed immediately after emptying the same.

SEC. 16. All milk, skimmed milk, or cream intended for shipment into the city of Zanesville shall be shipped in a can or other receptacle which shall be sealed at point of shipment with a lock and chain, wire seal, or other contrivance equally efficient, and such seal shall not be broken until the can or other receptacle is in the milk depot or premises of the consignee; except, however, when deemed necessary by a duly authorized inspector or representative of the health department such seal may be broken and the can or other receptacle opened in his presence.

SEC. 17. Application for a permit to sell milk in this city or ship or bring the same into the city shall be made upon a prescribed blank to be furnished by the health office, and such application when on file at the health office shall act the same as a permit until such time as the health department may take final action on such application.

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